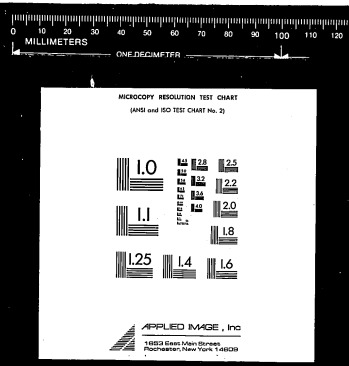



# 14:1

Compilation © 1993 University Publications of America.
All rights reserved.

# Thomas A. Edison Papers

*A SELECTIVE MICROFILM EDITION*

*PART III*
*(1887–1898)*


**Thomas E. Jeffrey**
Microfilm Editor

**Gregory Field**
**Theresa M. Collins**
**David W. Hutchings**
**Lisa Gitelman**
**Leonard DeGraaf**
**Dennis D. Madden**
**Mary Ann Hellrigel**
**Paul B. Israel**
**Robert A. Rosenberg**
**Karen A. Detig**
**Gregory Jankunis**
**Douglas G. Tarr**

Editors

**Reese V. Jenkins**
Director and Editor



Sponsors
**Rutgers, The State University of New Jersey**
**National Park Service, Edison National Historic Site**
**New Jersey Historical Commission**
**Smithsonian Institution**

**University Publications of America**
**Bethesda, Maryland**
**1993**



Edison signature used with permission of McGraw-Edison Company.

**Thomas A. Edison Papers**
**at**
**Rutgers, The State University**
**endorsed by**
**National Historical Publications and Records Commission**
**18 June 1981**

Copyright © 1993 by Rutgers, The State University

All rights reserved. No part of this publication including any portion of the guide and index or of the microfilm may be reproduced, stored in a retrieval system, or transmitted in any form by any means—graphic, electronic, mechanical, or chemical, including photocopying, recording or taping, or information storage and retrieval systems—without written permission of Rutgers, The State University, New Brunswick, New Jersey.

The original documents in this edition are from the archives at the Edison National Historic Site at West Orange, New Jersey.

**ISBN 0-89093-702-8.**

**THOMAS A. EDISON PAPERS**

**Reese V. Jenkins**
Director and Editor

**Thomas E. Jeffrey**
Associate Director and Microfilm Editor

**Robert A. Rosenberg**
Managing Editor, Book Edition

**Helen Endick**
Assistant Director for Administration

Associate Editor
**Paul B. Israel**

Research Associates
**Theresa M. Collins**
**David W. Hutchings**
**Karen A. Detig**

Intern
**Gregory Jankunis**

Assistant Editors
**Keith A. Nier**
**Gregory Field**
**Lisa Gitelman**
**Martha J. King**

Secretary
**Grace Kurkowski**

Student Assistant
**Bethany Jankunis**

## BOARD OF SPONSORS

Rutgers, The State University of New Jersey
Francis L. Lawrence
Joseph J. Seneca
Richard F. Foley
Rudolph M. Bell
New Jersey Historical Commission
Howard L. Green
National Park Service
John Maounis
Maryanne Gerbauckas
Nancy Waters
George Tselos
Smithsonian Institution
Bernard Finn
Arthur P. Molella

## EDITORIAL ADVISORY BOARD

James Brittain, Georgia Institute of Technology
Alfred D. Chandler, Jr., Harvard University
Neil Harris, University of Chicago
Thomas Parke Hughes, University of Pennsylvania
Arthur Link, Princeton University
Nathan Reingold, Smithsonian Institution
Robert E. Schofield, Iowa State University

## CORPORATE ASSOCIATES

William C. Hittinger (Chairman), RCA Corporation
Edward J. Bloustein, Rutgers, The State University of New Jersey *
Cees Bruynes, North American Philips Corporation
Paul J. Christiansen, Charles Edison Fund
Philip F. Dietz, Westinghouse Electric Corporation
Roland W. Schmitt, General Electric Corporation
Harold W. Sonn, Public Service Electric and Gas Company
Morris Tanenbaum, AT&T

*Deceased.

## FINANCIAL CONTRIBUTORS

### PRIVATE FOUNDATIONS

The Alfred P. Sloan Foundation
Charles Edison Fund
The Hyde and Watson Foundation
Geraldine R. Dodge Foundation

### PUBLIC FOUNDATIONS

National Science Foundation
National Endowment for the Humanities
National Historical Publications and Records Commission

### PRIVATE CORPORATIONS AND INDIVIDUALS

Alabama Power Company
Amerada Hess Corporation
Anonymous
AT&T
Atlantic Electric
Association of Edison Illuminating Companies, Inc.
Battelle Memorial Institute
The Boston Edison Foundation
Cabot Corporation Foundation, Inc.
Carolina Power & Light Company
Consolidated Edison Company of New York, Inc.
Consumers Power Company
Corning Glass Works Foundation
Duke Power Company
Entergy Corporation (Middle South Electric Systems)
Exxon Corporation
Florida Power & Light Company
General Electric Foundation
Gould Inc. Foundation
Gulf States Utilities Company
Idaho Power Company
International Brotherhood of Electrical Workers
Iowa Power and Light Company
Mr. and Mrs. Stanley H. Katz
Matsushita Electric Industrial Co., Ltd.
McGraw-Edison Company
Minnesota Power
New Jersey Bell
New York State Electric & Gas Corporation
North American Philips Corporation
Philadelphia Electric Company
Philips International B.V.
Public Service Electric and Gas Company
RCA Corporation
Robert Bosch GmbH
Rochester Gas and Electric Corporation
San Diego Gas & Electric
Savannah Electric and Power Company
Schering-Plough Foundation
Texas Utilities Company
Thomas & Betts Corporation
Thomson Grand Public
Transamerica Delaval Inc.
Westinghouse Educational Foundation
Wisconsin Public Service Corporation

# START

107

## A Note on the Sources

The pages which have been filmed are the best copies available. Every technical effort possible has been made to ensure legibility.

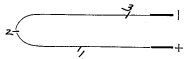
PUBLICATION AND MICROFILM
COPYING RESTRICTIONS

Reel duplication of the whole or of any part of this film is prohibited. In lieu of transcripts, however, enlarged photocopies of selected items contained on these reels may be made in order to facilitate research.

**Lamp Test Notebook #1, E-1735, 1895-1897**

This notebook covers the period December 1895-February 1897. It is the first of a set of four books used by an unidentified experimenter to record lamp tests, nos. 1-302. This book contains tests, nos. 1-148. Each test lists the amperes, volts, and candlepower used. Most of the lamps tested are designated as "Edison" lamps, although there a few from competitors, including "Buckeye," "Columbia," and "Sunbeam." There is scattered marginalia by either Edison or Thomas A. Edison, Jr. The front cover is marked "Orders. Book No 1. 1 to 148." The pages are unnumbered. Approximately 150 pages have been used. Numerous items have been pasted into the book.

ORDER NO. 1 Edison #14




At 21 Candles. Test Started 5-20 12-19-94 At 16 Candles.

P-2 Loop untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 91¼ | .47 | a.m. 8-35 Dec 20 | 7-05 | 3 | | 87½ | .44½ |
| 2 | 91¼ | .47¼ | p.m. 10-20 Dec 19 | 5-00 | 2 | | 87¼ | .45 |
| 3 | 91 | .48 | p.m. 10-00 Dec 19 | 4-40 | 1 | | 87 | .45 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 91¼ | .474 | | 5-35 | | | 87¼ | .448 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 305¼ |
| At 21 Candles. | 362¼ |

ORDER No. 2 Edison 15

At 12 Candles. Test Started 5-26 am 12-19-95

At 16 Candles.

P Loop untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 58½ | .41¼ | pm 6-18 Dec 19 | 56 | 3 | | 61¾ | .45 |
| 2 | 57¾ | .43¼ | pm 6-05 Dec 19 | 45 | 2 | | 60½ | .46 |
| 3 | 59¼ | .42¼ | pm 5-55 Dec 19 | 35 | 1 | | 62¼ | .45 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 58½ | .42¼ | | 45 minutes | | | 61½ | .453 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 428½ |
| At 12 Candles. | 360¼ |

ORDER No. 3 Edison #16

At 37 Candles. Test Started 5-26 12-19-95

At 16 Candles.

P Loop untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 117 | .62¾ | pm 6-18 Dec 19 | 0-48 | 1 | | 101½ | .51½ |
| 2 | 119 | .63 | pm 2-20 Dec 20 | 11-30 | 4 | | 102½ | .51½ |
| 3 | 118¼ | .63 | pm 6-55 Dec 20 | 16-05 | 5 | | 102 | .51¼ |
| 4 | 119 | .63 | am 10-00 Dec 20 | 8-10 | 2 | | 103½ | .52 |
| 5 | 120¼ | .62½ | pm 1-45 Dec 20 | 10-55 | 3 | | 105 | .57 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 118.7 | .629 | | 9.30 | | | 102.9 | .514 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 225½ |
| At 37 Candles. | 369¾ |

ORDER No. 4 Edison # 22

4 10-20 12-23-95 48¼

At 33¾

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 5.2 | | | 12 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | | | | | | | | | | | | | | | | | | | | | |
| % | | | | 35.6 | | | | | | | | | | | | | | | | | | | | |

| No. of Lamp. | Volts. |
|---|---|
| 1 | 109½ |
| 2 | 109½ |
| 3 | Dotting |
| 4 | 109½ |
| 5 | 109½ |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| Avg. | 109.5 |

4 10-20 12-23-95 48¼

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 9.5 | | | 5¾ | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 35.9 | | | | | | | | | | | | | | | | | | | | |

| No. of Lamp. | Volts. | Amperes. |
|---|---|---|
| 1 | 109½ | .61½ |
| 2 | 109½ | .61½ |
| 3 | | |
| 4 | 109½ | .61½ |
| 5 | 109½ | .61½ |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| Avg. | 109.5 | .618 |

ORDER No. 5 Edison # 23

At 33⅓ Candles. Test Started 5-20 12-19-95 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .61½ | a.m. 4-37 Dec 20 | 8-47 | 2 | | 97½ | .51½ |
| 2 | 108½ | .62 | p.m. 11-57 Dec 20 | 21-07 | 5 | | 96½ | .52 |
| 3 | 109½ | .61½ | p.m. 9-25 Dec 19 | 4-05 | 1 | | 97½ | .51½ |
| 4 | 107½ | .62 | p.m. 11-15 Dec 20 | 20-25 | 4 | | 95½ | .51½ |
| 5 | 108 | .62¼ | a.m. 10-42 Dec 20 | 8-52 | 3 | | 96 | .52 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.6 | .619 | | 12.39 | | | 96.6 | .517 |

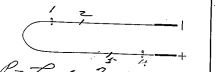
8-Loop Undrsated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 239 |
| At 33⅓ Candles. | 370 |

ORDER No. 4 Edison #22

At 33¾ Candles. Test Started 5-20 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .62 | a.m. 10-55 Dec 23 | 8-15 | 3 | | 97 | .52 |
| 2 | 109½ | .61¾ | p.m. 7-10 Dec 20 | 16-20 | 1 | | 97 | .52 |
| 3 | To high | | | | | | To High | |
| 4 | 109½ | .61½ | a.m. 8-00 Dec 24 | 8-35 | 4 | | 97½ | .51½ |
| 5 | 109½ | .62 | p.m. 9-50 Dec 21 | 22-30 | 2 | | 97½ | .51½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.5 | .618 | | 32.25 | | | 97.3 | .518 |



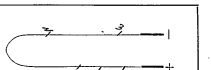

P-Loop Untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 237 |
| At 33¾ Candles. | 372 |

ORDER No. 5 Edison #23

At 33⅓ Candles. Test Started 5-20 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | 61½ | a.m. 10-37 Dec 20 | 8-47 | 2 | | 97½ | .51½ |
| 2 | 108½ | .62 | p.m. 11-57 Dec 20 | 21-07 | 5 | | 96½ | .52 |
| 3 | 109½ | 61½ | p.m. 9-25 Dec 19 | 4-05 | 1 | | 97½ | .51½ |
| 4 | 107½ | .62 | p.m. 11-15 Dec 20 | 20-25 | 4 | | 95½ | .51½ |
| 5 | 108 | 62¼ | a.m. 10-42 Dec 20 | 8-52 | 3 | | 96 | .52 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.6 | .619 | | 12.39 | | | 96.6 | .517 |




P-Loop Untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 239 |
| At 33⅓ Candles. | 370 |

ORDER No. 6 Edison #24

At 37½ Candles. Test Started 5-20 12-19-95

At 16 Candles.

P. Loop Untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116½ | .66 | Pm 8-10 Dec 19 | 2-50 | 4 | | 101 | .53½ |
| 2 | 118½ | .66 | Pm 8-15 Dec 19 | 2-55 | 5 | | 102½ | .53¼ |
| 3 | 114½ | .63¾ | Pm 7-25 Dec 19 | 2-05 | 2 | | 100½ | .53½ |
| 4 | 113½ | .66¼ | Pm 7-20 Dec 19 | 2-10 | 3 | | 98½ | .54 |
| 5 | 113½ | .65 | Pm 7-05 Dec 19 | 1-45 | 1 | | 98½ | .53½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 115.3 | .658 | | 2.19 | | | 100.2 | .536 |

Candles per H. P.

At 16 Candles. 222

At 37½ Candles. 369

ORDER No. 7 Edison #25

At 42⅓ Candles. Test Started 5-20 12-19-95

At 16 Candles.

P. Loop Untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 117½ | .71¾ | Pm 9-05 Dec | 3-45 | 3 | | 100½ | .57 |
| 2 | 113½ | .73¼ | Pm 8-40 Dec 19 | 3-20 | 1 | | 96½ | .58½ |
| 3 | To High | | | | | | To High | |
| 4 | To High | | | | | | To High | |
| 5 | 117½ | .73¼ | Pm 9-05 Dec 19 | 3-45 | 2 | | 100½ | .59 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 116.2 | .728 | | 3-36 | | | 99.2 | .582 |

Candles per H. P.

At 16 Candles. 206

At 42⅓ Candles. 373

ORDER NO. 8 Edison #26

At 41 Candles. Test Started 5-20 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 118½ | .70 | a.m. 8-45 Dec 20 | 6-55 | 2 | 104¼ | .56 |
| 2 | 115½ | .70 | p.m. 2-50 Dec 20 | 12-00 | 4 | 101½ | .56 |
| 3 | 116 | .71 | a.m. 11-25 Dec 20 | 9-35 | 3 | 99½ | .57½ |
| 4 | 114½ | .70 | p.m. 10-25 Dec 19 | 5-05 | 1 | 102½ | .56 |
| 5 | 115½ | .70½ | p.m. 4-05 Dec 20 | 13-15 | 5 | 98¾ | .57 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 117.6 | .703 | | 9-22 | | 100.7 | .565 |

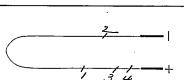
P-Loop Unrated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 210 |
| At 41 Candles. | 370 |

ORDER NO. 9 Edison #27

At 47 Candles. Test Started 5-20 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 112½ | .82 | a.m. 11-55 Dec 20 | 10-05 | 2 | 94 | .63½ |
| 2 | 118½ | .79¾ | p.m. 2-13 Dec 20 | 11-23 | 3 | 98½ | .62½ |
| 3 | 111½ | .83½ | p.m. 3-45 Dec 20 | 12-55 | 4 | 94 | .63½ |
| 4 | 114½ | .85 | a.m. 9-12 Dec 20 | 7-22 | 1 | 96 | .66 |
| 5 | To High | | | | | 102 | .63 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 114.2 | .826 | | 10-24 | | 97.1 | .641 |




P-Loop Unrated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 192 |
| At 47 Candles. | 372 |

ORDER NO. 10 Edison #28

At 40 1/4 Candles. Test Started 5:20 pm 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113 1/2 | .72 | pm 11-15 Dec 19 | 5-35 | 3 | | 96 1/2 | .57 1/2 |
| 2 | 114 | .72 | pm 11-00 Dec 19 | 5-40 | 2 | | 97 1/2 | .57 1/2 |
| 3 | 114 | .73 1/2 | pm 11-55 Dec 19 | 6-35 | 5 | | 97 | .58 |
| 4 | 111 | .73 1/2 | pm 6-45 Dec 19 | 6-25 | 4 | | 95 1/2 | .59 1/2 |
| 5 | 110 1/2 | .74 | pm 6-40 Dec 19 | 1-20 | 1 | | 95 1/4 | .59 1/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.6 | .73 | | [illegible] | | | 96.4 | .58 4 |

3 7/8 — 1
1/1
5 — +

P. Loop Unstrated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 212 |
| At 40 1/4 Candles. | 363 |

ORDER NO. 11 Edison #29

At 32 3/4 Candles. Test Started 5:20 pm 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104 1/2 | .62 1/2 | pm 3-13 Dec 20 | 12-23 | 3 | | 92 1/4 | .52 1/2 |
| 2 | 107 | .62 | pm 2-18 Dec 20 | 11-28 | 2 | | 93 1/4 | .52 1/2 |
| 3 | 105 1/2 | .62 | pm 2-05 Dec 20 | 11-15 | 1 | | 93 1/4 | .52 1/4 |
| 4 | 107 3/4 | .60 1/2 | pm 5-22 Dec 20 | 14-32 | 4 | | 96 1/4 | .51 |
| 5 | 108 3/4 | .62 | a.m. 11-20 Dec 21 | 24-05 | 5 | | 97 1/2 | .52 1/2 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.7 | .618 | | [illegible] | | | 94.9 | .522 |

5 — 7 — 1
1 1/2
3 — +

P. Loop Unstrated

ORDER No. 12 Edison #31




At 26 Candles. Test Started 5-20 12-19-95 At 16 Candles.

P Loop Untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110½ | .44½ | Pm 2-45 Dec 20 | 11-25 | 4 | | 103 | .41 |
| 2 | 110½ | .45¾ | Pm 8-10 Dec 20 | 7-20 | 5 | | 102 | .41 |
| 3 | 107¾ | .50 | Pm 1-42 Dec 20 | 10-52 | 3 | | 99½ | .44½ |
| 4 | 108¾ | .45¾ | Am 9-57 Dec 20 | 7-13 | 1 | | 101 | .41 |
| 5 | 107½ | .50 | Pm 1-32 Dec 20 | 10-42 | 2 | | 99 | .44½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 | .471 | | 11-32 | | | 100.9 | .424 |

| Candles per H. P. | |
|---|---|
| At 16 Candles. | 279 |
| At 26 Candles. | 378 |

ORDER No. 13 Edison #32




At 23½ Candles. Test Started 5-20 12-19-95 At 16 Candles.

P Loop Untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 105½ | .42 | Pm 4-00 Dec 20 | 13-10 | 3 | | 98¾ | .38½ |
| 2 | 110½ | .48 | Pm 6-00 Dec 20 | 15-10 | 4 | | 103 | .43½ |
| 3 | 106½ | .48½ | Pm 4-00 Dec 20 | 13-10 | 2 | | 99½ | .43½ |
| 4 | 108¾ | .48 | Pm 1-25 Dec 20 | 10-35 | 1 | | 101 | .43½ |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.8 | .466 | | 13-02 | | | 100.3 | .422 |

| Candles per H. P. | |
|---|---|
| At 16 Candles. | 282 |
| At 23½ Candles. | 378 |

ORDER No. 14 Edison #37

At 25 Candles. Test Started 8 pm 5-20 12-19-95 At 16 Candles.

R-Loop Untested

| NO. OF LAMP. | VOLTS. | AMPERES. | | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 98½ | .50 | 8 pm 6-30 Dec 19 | 1-10 | 3 | | | 92¼ | .45 |
| 2 | 102½ | .49 | 8 pm 6-18 Dec 19 | 0-52 | 1 | | | 96¼ | .45 |
| 3 | 102½ | .49½ | 8 pm 6-35 Dec 19 | 1-05 | 2 | | | 96 | .45 |
| 4 | 99½ | .50 | Loose Clamp | | | | | 93½ | .45 |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | 100.8 | .496 | | 1.03 | | | | 94.5 | .45 |

Candles per H. P.

At 16 Candles. 283

At 25 Candles. 373

ORDER No. 15 Edison #42

At 45¾ Candles. Test Started 8 pm 5-20 12-19-95 At 16 Candles.

R-Loop Untested

| NO. OF LAMP. | VOLTS. | AMPERES. | | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 118½ | .78½ | 8 pm 4-45 Dec 20 | 13-55 | 4 | | | 100½ | .61 |
| 2 | 117½ | .79½ | 8 pm 5-55 Dec 20 | 15-25 | 3 | | | 99½ | .62½ |
| 3 | 109¾ | .83½ | 8 pm 11-25 Dec 20 | 9-35 | 1 | | | 93½ | .66½ |
| 4 | 114½ | .77½ | 8 pm 3-35 Dec 20 | 12-45 | 3 | | | 97¼ | .61½ |
| 5 | 116 | .78½ | 8 pm 2-35 Dec 20 | 11-45 | 2 | | | 98 | .62 |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | 115.3 | .79 | | 12.41 | | | | 97.8 | .627 |

Candles per H. P.

At 16 Candles. 195

At 45¾ Candles. 372

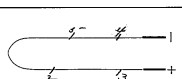
ORDER No. 16 — Edison #10

| Order No. | 16 | 9-15- | 12-21-95 | 11-33 | 12-13-95 | 10-15- | 12-23-95 | 11-43- | 12-24-94 | 8-20 pm | 12-26-95 | 10-30 pm | 12-26-95 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg. | | 27 | | 38¼ | | 47½ | | 54 | | 60½ | | 71⅔ | |

| At 36 | No. of Lamp. | Volts. | No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 3 | 61½ | | 65.1 | 29½ | 60¾ | | 61.1 | 22 | 60¼ | | 55.3 | 21 | 60¼ | | 54.5 | 21½ | 59½ | | 59.7 | 21½ | 60 | | 59.2 | 19½ |
| | | | 4 | 60¾ | | 65.3 | 23¾ | | | | | | | | | | | | | | | | | | | | |
| | | | 5 | 63 | | 70.9 | 26¼ | 60½ | | 66.0 | 23¾ | 62 | | 61.6 | 22 | 61¼ | | 55.3 | 21 | | | | | | | | |
| | | | 6 | 59.7 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 106 | Ave. | | | | 24¾ | | | | 22.85 | | | | 21½ | | | | 21½ | | | | 21½ | | | | 19½ |
| | 2 | Broke by | % | | | | .687 | | | | .626 | | | | .578 | | | | .578 | | | | .577 | | | | .571 |
| | 3 | 105 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 4 | 104½ | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 | 106 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 16 | | | | | | | | | | | | | | | | | | | | | | | | |

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 117½ | | | | 54 | | | | 60½ | | | | 71⅔ | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | 52 | | | 11½ | 54 | | | 8 | 52 | | | 10½ | 54 | | | 9.1 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | 52¼ | | | 10 | 52 | | | 10¼ | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | 10¼ | | | | 11½ | | | | 10½ | | | | 9¾ |
| | | | | | | | | | | | | 64.1 | | | | 55.3 | | | | 55.6 | | | | 61.3 |
| Avg. 105.4 | | | | .671 | | | | 58.17 | | | | .573 | | | | .565 | | | | | | | | |

ORDER No. 17 — Edison #45




At 42¾ Candles. Test Started 5-20 pm 12-19-95 — At 16 Candles. P. Lamp Untreated

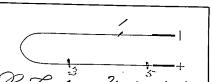
| Candles per H. P. | |
|---|---|
| At 16 Candles. | 204 |
| At 42¾ Candles. | 377 |

| No. of Lamp. | Volts. | Amperes. | Time When Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | To High | | | | | | To High | |
| 2 | 114½ | .74½ | 5-15 pm Dec 19 | 1-53 | 2 | | 98½ | .60 |
| 3 | 109 | .77½ | 5-30 pm Dec 19 | 3-10 | 3 | | 94 | .62 |
| 4 | 111 | .74½ | 6-30 pm Dec 19 | 1-10 | 1 | | 96½ | .60½ |
| 5 | 110¾ | .77½ | 5-33 pm Dec 19 | 3-13 | 4 | | 96 | .62 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.3 | .76 | | 2.22 | | | 96½ | .611 |

ORDER NO. 16 Edison #43

At 36 Candles. Test Started 5-20 pm 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 106 | .67½ | 5-16 pm Dec 21 | 26-56 | 1 | 92½ | .53¾ |
| 2 | Broke by Accident | | | | | 93¾ | .56 |
| 3 | 105 | .65¾ | 7-18 pm Dec 27 | 84-24 | 4 | 93½ | .55½ |
| 4 | 104½ | .68½ | 10 am Dec 21 | [illegible] | [illegible] | 92½ | .58 |
| 5 | 106 | .67 | 3 pm [illegible] | [illegible] | [illegible] | 93¼ | .56 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 105.4 | .671 | | 51.17 | | 93 | .563 |



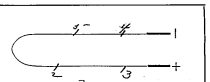

P Loop Untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 228 |
| At 36 Candles. | 380 |

ORDER NO. 17 Edison #45

At 42¾ Candles. Test Started 5-20 pm 12-19-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | To High | | | | | To High | |
| 2 | 114½ | .74½ | 7-55 pm Dec 19 | 1-55 | 2 | 98½ | .60 |
| 3 | 109 | .77½ | 8-30 pm Dec 19 | 3-10 | 3 | 94 | .62 |
| 4 | 111 | .74½ | 6-30 pm Dec 19 | 1-10 | 1 | 96½ | .60½ |
| 5 | 110¾ | .77½ | 8-33 pm Dec 19 | 3-13 | 4 | 96 | .62 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 111.3 | .76 | | 2.22 | | 96.2 | .611 |



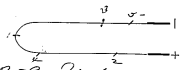

P Loop Untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 204 |
| At 42¾ Candles. | 377 |

ORDER No. 18 Edison #46

At 41 3/4 Candles. Test Started Com 5-20 12-19-85 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time When Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 1/2 | .75 1/2 | 8 pm 8.08 Nov 24 | 402.8 | 4 | | 93 1/2 | .61 1/2 |
| 2 | 110 | .76 | 10-30 am Dec 21 | 23-10 | 2 | | 94 1/2 | .62 |
| 3 | 110 | .77 | 8:40 am Nov 23 | [illegible] | 5 | | 94 | .62 1/2 |
| 4 | 110 | .75 | 3-50 pm Dec 21 | 27-30 | 3 | | 94 | .61 1/2 |
| 5 | 110 1/2 | .75 1/2 | 1-25 pm Dec 20 | 10-35 | 1 | | 94 | .60 3/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110 | .758 | | 29.31 | | | 93.8 | .615 |



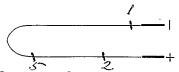

P. Lamp Unbreaked

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 209 |
| At 41 3/4 Candles. | 374 |

ORDER No. 19 Edison #54

At 38 1/2 Candles. Test Started 6-00 pm 12-21-85 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time When Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .67 1/2 | 9:10 pm Dec 23 | 17.20 | 2 | | 96 | .57 |
| 2 | 113 | .67 | 1.33 am Dec. 23 | 19.13 | 1 | | 97 | .55 1/2 |
| 3 | To High | | | | | | 100 1/2 | .55 |
| 4 | To High | | | | | | 99 | .54 3/4 |
| 5 | 113 | .68 | 10.10 am Dec 24 | 22.10 | 3 | | 97 | .56 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.7 | .682 | | 17.47 2/3 | | | 97.9 | .557 |




P. Lamp Unbreaked

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 218 |
| At 38 1/2 Candles. | 376 |

ORDER NO. 98 (660 h.)

| | 1:30 PM 1-8-96 | 2:15 PM 1-8-96 | 9 am 1-8-96 | 3:45 PM 1-8-96 | 8:45 PM 1-8-96 | 10 AM 1-9-96 |
|---|---|---|---|---|---|---|
| | 114.40 | 134.25 | 148.10 | 157 | 173.55 | 180.10 |

At 27 3/4

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 48 1/2 | | 97.7 | 134 1/4 | 46 | | 97.7 | 138 1/4 | 48 1/2 | | 42.3 | 117 1/4 | 45 | | 12 | 45 | | | 111 1/4 | 94 | | | 10 | |
| 5 | 46 1/2 | | 97.7 | 134 1/4 | 46 3/4 | | 94.4 | 111 1/4 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 134 1/4 | | | | 138 1/4 | | | | 117 1/4 | | | 12 | | | | 111 1/4 | | | | 10 | |
| % | | | | 99.2 | | | | 99.2 | | | | 92.3 | | | 92.2 | | | | 100.3 | | | | 36 | |

| | 114.40 | 134.25 | 148.10 | 157 | 173.55 | 180.10 |
|---|---|---|---|---|---|---|

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 40 3/4 | | | 71 41 | | | | 134 40 | | | | 64 1/2 40 | | | | 13 1/4 38 3/4 | | | | 1 39 | | | | 8 1/2 |
| 5 | 41 1/4 | | | 71 1/2 41 1/4 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 71.37 | | | | 134.37 | | | | 64 1/2 | | | | 13 1/4 | | | | 1 | | | | 8 1/2 |
| % | | | | 96.6 | | | | 99.2 | | | | 40.3 | | | | 42.2 | | | | 0.3 | | | | 34.4 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | 100 | 5 | 104 1/2 | | | | | |
| 2 | 104 | 6 | | | | | | |
| 3 | 104 | 7 | | | | | | |
| 4 | 100 1/2 | 8 | | | | | | |
| | | 9 | | | | | | |
| | | 10 | | | | | | |
| Avg. | 104.1 | Avg. | | | | | | |

ORDER NO.

At

Test Started 10:15 AM 12-23-95 At 16 Candles.

| NO. OF LAMP. | VOLTS. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

ORDER No. 8 — 12-27-95 — 12-27-95 — 12-30-95 — 1-30 Pm — 12-30-95 — 5:00 Pm 12-31-95 — 5:50 — 1-2-96

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 7/0 | | | | 7/0 | | | | 7/0 | | | | | | | | | |
| 2 | .47 1/4 | | 61.3 | 17 | .46 1/2 | | 57.4 | 14 1/2 | | | 56.5 | 14 | 43 3/4 | | 56.5 | 14 | .40 | | 44.7 | 12 1/4 | | | | |
| 3 | .47 1/4 | | 62.7 | 17 1/4 | 47 | | 58.1 | 14 3/4 | .47 | | 56.5 | 14 | 46 | | 45.7 | 12 3/4 | .40 | | 44.7 | 12 1/4 | | | | |
| 4 | .47 3/4 | | 59.5 | 16 1/4 | 47 | | 55.0 | 13 3/4 | .47 | | 53.3 | 14 1/2 | 46 1/2 | | 57.4 | 15 3/4 | .46 | | 47.7 | 13 1/4 | 45 3/4 | | 45.7 | 12 1/4 |
| 5 | .47 3/4 | | 61.5 | 17 | 48 | | 56.8 | 15 3/4 | .47 3/4 | | 55.7 | 14 3/4 | 46 1/2 | | 54.3 | 15 3/4 | .45 | | 52.3 | 14 1/2 | 46 1/2 | | 53.5 | 14 1/4 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 16 3/4 | | | | 14.9 | | | 13 1/4 | | | | 14 | | | | 13.04 | | | | 15.7 | |
| % | | | | 82 | | | | 83.7 | | | 82.2 | | | | 103 | | | | 97 | | | | 47.2 | |

At 27 3/4 — No. of Lamp — Volts

| | | |
|---|---|---|
| 1 | 104 | |
| 2 | 104 | |
| 3 | 104 | |
| 4 | 104 | |
| 5 | 104 1/2 | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| Avg. | 104.1 | |

8 — 40 1/4 Amp — 52 Amp — 64 1/4 Amp — 76 — 87.25 — 98.40

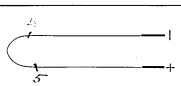
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .47 | | | 9 3/4 | .72 | | | 18 1/4 | .71 | | | 7 3/4 | .96 1/2 | | | 3 3/4 | .40 | | | 7 1/4 | | | | |
| 3 | .46 | | | 9 3/4 | .72 1/4 | | | 17 1/4 | .72 | | | 7 1/4 | .71 | | | 1 1/2 | .40 1/2 | | | 7 | | | | |
| 4 | .46 | | | 10 | .72 | | | 9 | .71 1/4 | | | 6 1/4 | .70 3/4 | | | 8 | .41 | | | 7 3/4 | .41 1/4 | | | 7 3/4 |
| 5 | .47 1/4 | | | 11 | .70 | | | 9 | .72 1/2 | | | 9 | .72 | | | 8 3/4 | .42 | | | 8 1/4 | .40 3/4 | | | 7 3/4 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 10.6 | | | | 13.4 | | | | 8.31 | | | | 5.5 | | | | 7.25 | | | | 7.3 |
| % | | | | 60 | | | | 74.4 | | | | 103.8 | | | | 137.2 | | | | 47 | | | | 47.2 |

5 — 104 1/2 — 97.5

ORDER No. 21 — Edison # 74

At 39 Candles. Test Started 10:12 Pm 12-21-95 At 16 Candles.

| No. of Lamp | Volts | Amperes | Time when broken | Lamp-life (minutes) | Order of breaking | | Volts | Amperes |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | 109 | .68 1/4 | 10:23 Pm 12-22-95 | .10 | 2 | | 94 | .38 |
| 5 | 109 3/4 | .72 | 10:18 Pm 12-22-95 | .03 | 1 | | 92 1/4 | .37 1/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 1/2 | .702 | | .065 | | | 96.9 | .378 |

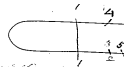



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 5.20 |
| At 39 Candles. | 3.9 |

ORDER No. 20 Edison #8

At 27¾ Candles. Test Started 9 AM 1-22-95

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104 | .527 | 9.00 am | [illegible] | 1 | | 94½ | .47 |
| 2 | 104 | .52½ | 6.00 pm 1-22-95 | 582.25 | 1 | | 94½ | .41 |
| 3 | 104 | .5.2 | 3.43 pm Jan 2 | 92.18 | 2 | | 91 | .41½ |
| 4 | 104½ | .52½ | 11.02 am Jan | 184.37 | 5 | | 95 | .41 |
| 5 | 104½ | .53 | 0.00 am 1-24-95 | 1243.55 | | | 95½ | .42 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 104.1 | .527 | | 95.85 | | | 92.2 | .41 |



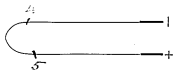

Photographs Horizontal

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 4.68 |
| At 27¾ Candles. | 5.77 |

ORDER No. 21 Edison #7

At 39 Candles. Test Started 10.17 AM 12-21-95

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | 109 | .68½ | 10.25 am 12-22-95 | .10 | 2 | | 94 | .58 |
| 5 | 109½ | .72 | 10.18 am 12-22-95 | .03 | 1 | | 95½ | .59½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109½ | .702 | | .065 | | | 96.9 | .578 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 3.20 |
| At 39 Candles. | 3.69 |

ORDER No.

| | | |

ORDER No. 27

| | | |

| ORDER No. | 77 | 11.0 am 1-7-96 | 10.20 am 1-7-96 | 10.45 am 1-8-96 | 10.40 pm 1-9-96 | 8.20 am 1-10-96 | 2.45 pm 1-10-96 |
|---|---|---|---|---|---|---|---|
| | 6000 c. | 111.15 | 121.1/2 | 139 | 153.60 | 162.35 | 158 |

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75 | | 36.6 | 13 3/4 | 37 3/4 | | 37.2 | 15 | 25 | | | 13 3/4 | 13 3/4 | | | 1-7/8 | 24 | | | 14 | 38 3/4 | | | 14 1/4 |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 73 | | 34.9 | 15 | .73 | | 36. | 13 3/4 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 13.75 | | | | 13.75 | | | | 13 3/4 | | | | 14 1/2 | | | | 14 | | | | 14 1/4 |
| % | | | | 35.8 | | | | 34.3 | | | | 35.5 | | | | 37 | | | | 32 1/2 | | | | 30.1 |

At 40 Candles.

| NO. OF LAMP. | VOLTS. |
|---|---|
| 1 | 107 |
| 2 | 107 |
| 3 | 106 1/2 |
| 4 | 107 3/4 |
| 5 | |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | |
| Avg. | 107 |

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 61 | | | 5 3/4 | 60 1/2 | | | 5 3/4 | 60 | | | 5 | 57 3/4 | | | 1 3/4 | 60 | | | 5 | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 58 | | | 5 | 57 3/4 | | | 5 3/4 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | 1 | .812 | 0 | | | | | 134.23 | | | | | | | | | | | | | | | | |

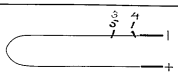
| ORDER No. 28 | Edison | 7 |
|---|---|---|

At 36 Candles. Test Started 10.13 am 10.21.95

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. |
|---|---|---|---|---|---|
| 1 | 109 1/4 | .66 | 9.45 Am Nov 31 | 33.3 | 0 |
| 2 | | | | | |
| 3 | 109 1/4 | .65 | 5 Pm Nov 28 | 2440 | 2 |
| 4 | 110 1/4 | .67 1/4 | 9.15 am Nov 28 | 1440 | 1 |
| 5 | 110 1/4 | .66 1/4 | 9.5 am Nov | 1553 | — |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| Avg. | 110.1 | .661 | | 33.47 | |

At 16 Candles.

| VOLTS. | AMPERES. |
|---|---|
| 96 1/2 | .55 |
| 98 | .57 1/2 |
| 95 1/2 | .55 |
| 95 | .55 |
| 95 1/2 | .55 |
| | |
| | |
| | |
| | |
| | |
| 96.15 | .543 |

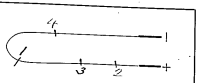



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 227 |
| At 36 Candles. | 847 |

Order No. 22 Edison [illegible]

At 48 Candles. Test Started [illegible] 12.21.95 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | 107 | .83 | 11 Pm. 1.27.96 | 377.10 | 4 | [illegible] | [illegible] |
| 2 | 107 | .82 | 3.30 PM Nov 27 | 5.30 | 1 | [illegible] | [illegible] |
| 3 | 106½ | .82 | 11.58 am. Nov 3 | [illegible] | 3 | [illegible] | [illegible] |
| 4 | 107½ | .78 | 12 noon Nov 28 | 22.40 | 2 | [illegible] | [illegible] |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 107 | .812 | | 134.23 | | [illegible] | [illegible] |

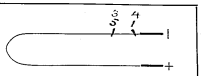



| | Candles per H. P. |
|---|---|
| At [illegible] Candles. | [illegible] |
| At [illegible] Candles. | 51.5 |

Order No. 23 Edison [illegible]

At 36 Candles. Test Started 11.13 Am 12.21.95 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | 109½ | .66 | [illegible] Nov 30 | [illegible] | 3 | 96½ | .55 |
| 2 | | | | | | 94 | .51½ |
| 3 | 109½ | .65 | 5 PM Nov 28 | 24.40 | 2 | 95½ | .55 |
| 4 | 110½ | .67½ | 9.15 am Nov 28 | 14.30 | 1 | 95 | .55 |
| 5 | 110½ | .66½ | 9.55 am [illegible] | 55.3 | [illegible] | 95½ | .55 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 110.1 | .661 | | 33.49 ~~44.7~~ | ~~[illegible]~~ | 96.15 | .543 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 227 |
| At 36 Candles. | 847 |

| 79 | 9:40 am 4-7-98 | | | | 10:10 pm 1-8-98 | | | | 10:37 pm 1-9-98 | | | | 2:55 pm 1-13-98 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 L. | 121. | | | | 135.½ | | | | 150.20 | | | | 185.10 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .76 | | 34.7 | 15½ | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .73 | | 37.4 | 17¾ | 73½ | | 35.8 | 17 | 72 | | 33.7 | 16 | .73 | * | 32.1 | 23¾ | | | | | | | | |
| 4 | .72 | | 34.2 | 14¼ | 71 | | 32.6 | 15½ | 70 | | 30.5 | 14½ | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.13 | | | | 16.25 | | | | 15½ | | | | 23¾ | | | | | | | | |
| % | | | | 35.4 | | | | 34.2 | | | | 32.1 | | | | 32.1 | | | | | | | | |

#3 lamp put in new bulb.

| | 121 | | | | 135.½ | | | | 150.20 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .60 | | | 5 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .57 | | | 5 | 56 | | | 4½ | 55½ | | | 4.2 | | | | | | | | | | | | |
| 4 | .57 | | | 5 | 56 | | | 4¾ | 55 | | | 4¼ | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 5 | | | | 16.13 | | | | 4¼ | | | | | | | | | | | | |
| % | | | | 31.3 | | | | 30.7 | | | | | | | | | | | | | | | | |

| 80 | 9 pm 1-2-98 | | | | 7:35 pm 1-5-98 | | | | 2:20 pm 1-6-98 | | | | 9:15 am 1-7-98 | | | | 9:50 pm 1-7-98 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 L. | 63.15 | | | | 77.35 | | | | 97.40 | | | | 109.30 | | | | 120.¾ | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 75 | | 43.4 | 19 | 74¼ | | 38.8 | 17 | 77½ | | | 16½ | 72½ | | | 13¾ | 72¼ | | | 14¾ | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 71 | | 39.4 | 17¼ | 70 | | 36.6 | 15 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.12 | | | | 16.5 | | | | 16.5 | | | | 13¾ | | | | 14¼ | | | | |
| % | | | | 41.4 | | | | 37.7 | | | | 37.7 | | | | 31.4 | | | | 33.7 | | | | |

| | 63.15 | | | | 77.35 | | | | | | | | 109.30 | | | | 120.¾ | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 60 | | | 6¾ | 60 | | | 5 | 59 | | | 5½ | 59 | | | 4.2 | 58 | | | 4¾ | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 58 | | | 6½ | 57¼ | | | 5½ | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 6.37 | | | | 5¾ | | | | 5½ | | | | 4.1½ | | | | 4¾ | | | | |
| % | | | | 37.8 | | | | 35.1 | | | | 34.4 | | | | 25.1 | | | | 27.7 | | | | |

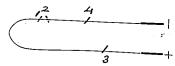
| 79 | 8:45 PM 12-26-95 | | | | 6 PM 12-31-95 | | | | 8:45 AM 1-2-96 | | | | 9 PM 1-3-96 | | | | 2:40 PM 1-6-96 | | | | 9:20 AM 1-7-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hour | 39 1/4 | | | | 52 1/2 | | | | 63 | | | | 78.15 | | | | 92.55 | | | | 109.35 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 80 | | 27.6 | 29 1/2 | 79 | | 35.3 | 22 | 79 | | 44.7 | 21 1/2 | 78 | | 45.0 | 19 | 11 1/2 | | 42.0 | 19 | 77 1/2 | | 35.8 | 17 |
| 2 | 78 | | 44.3 | 20 1/2 | 77 | | 45.5 | 22 | 77 | | 42.1 | 20 | 77 | | 40.0 | 19 | 11 3/4 | | 37.7 | 18 | | | | |
| 3 | 77 | | 55.5 | 24 | 75 | | 45.2 | 21 1/2 | 76 | | 45.2 | 21 1/2 | 75 | | 42.1 | 20 | 14 | | 40.5 | 19 1/2 | 70 1/4 | | 35.8 | 17 |
| 4 | 78 | | 53.7 | 23 1/2 | 77 | | 42.1 | 20 | 76 | | 44.8 | 21 1/4 | 75 | | 45.0 | 19 | 14 | | 39.5 | 19 1/4 | 72 1/4 | | 33.7 | 16 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 24.3 | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.4 | | | | 21.4 | | | | 21 | | | | 19.25 | | | | 19 1/4 | | | | 16 |
| % | | | | 57.2 | | | | 45 | | | | 44.2 | | | | 40.5 | | | | 39.4 | | | | 35.1 |
| | 39 1/4 | | | | 52 1/2 | | | | | | | | 78.15 | | | | 92.55 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 64 | | | 8 | 63 | | | 7 1/4 | 62 1/2 | | | 6 1/2 | 62 | | | 6 | 60 1/2 | | | 5 1/2 | 60 1/2 | | | 5 |
| 2 | 62 | | | 7 1/4 | 61 | | | 6 1/2 | 61 | | | 6 1/2 | 61 | | | 6 1/4 | 60 | | | 5 1/2 | | | | |
| 3 | 60 | | | 7 1/4 | 59 | | | 6 1/2 | 59 | | | 6 1/4 | 58 | | | 5 1/4 | 58 | | | 5 1/4 | 57 1/4 | | | 4 1/2 |
| 4 | 61 1/2 | | | 7 1/2 | 61 | | | 6 3/4 | 60 | | | 6 3/4 | 59 | | | 6 | 59 | | | 6 | 57 | | | 4 1/2 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 7 1/4 | | | | 6.75 | | | | 6.3 | | | | 6 | | | | 5.65 | | | | 4 1/2 |
| % | | | | 18.0 | | | | 42 | | | | 40.8 | | | | 37.5 | | | | 35.3 | | | | 30 |

| 80 | 9 PM 1-2-96 | | | | 8:35 PM 1-3-96 | | | | 2:30 PM 1-6-96 | | | | 9:15 AM 1-7-96 | | | | 4:30 PM 1-7-96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hour | 63.15 | | | | 77.55 | | | | 97.45 | | | | 109.30 | | | | 120.34 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 75 | | 43.4 | 19 | 74 1/4 | | 38.8 | 17 | 77 1/4 | | | 16 1/2 | 72 1/2 | | | 13 3/4 | 72 1/4 | | | 14 3/4 | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 71 | | 39.4 | 17 1/4 | 70 | | 36.6 | 16 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.12 | | | | 16.5 | | | | 16.25 | | | | 13 3/4 | | | | 14 3/4 | | | | |
| % | | | | 41 1/4 | | | | 37.7 | | | | 42.7 | | | | 34.4 | | | | 35.7 | | | | |
| | 63.15 | | | | 77.55 | | | | | | | | 109.30 | | | | 120.34 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 60 | | | 6 1/4 | 60 | | | 6 | 59 | | | 5 1/2 | 59 | | | 4.75 | 58 | | | 7 3/4 | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 58 | | | 6 1/2 | 57 1/4 | | | 5 1/2 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 6.37 | | | | 5 3/4 | | | | 5 1/2 | | | | 4 1/2 | | | | 4 3/4 | | | | |
| % | | | | 39.8 | | | | 35.1 | | | | 34.4 | | | | 28.1 | | | | 29.7 | | | | |

ORDER No. 24 Edison 79

At 47 1/2 Candles. Test Started 10.15 12-22-93

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110.1/4 | .81 1/2 | 10.30 Pm Jan 7 | 172 | 2 | | 92 | .67 |
| 2 | 110.1/2 | .83 | 9.15 Pm Jan 68 | 15 | 1 | | 92 | .67 |
| 3 | 110 1/2 | .82 1/2 | 5.40 Pm Jan. 14.96 | 207.05 | 4 | | 91 | .65 |
| 4 | 110. | .81 1/4 | 10.50 Am Jan [illegible] | [illegible] | 3 | | 91 1/4 | .66 1/2 |
| 5 | | | | | | | 93 | .69 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.0 | .822 | | 148.35 | | | 91.1 | .659 |

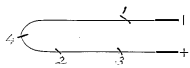



| | Candles per H. P. |
|---|---|
| At Candles. | |
| At Candles. | |

ORDER No. 25 Edison 81

At 48 3/4 Candles. Test Started 10.15 12-22-93

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106 3/4 | .87 | 1.50 Pm Jan. 5 | 120.05 | 4 | | 90 | .68 1/2 |
| 2 | 110 1/2 | .88 1/2 | 10.25 Pm Dec 26 | 331.30 | 1 | | 93 1/4 | .66 3/4 |
| 3 | 107 | .72 1/2 | 9.52 Am Jan 1. | 81.[illegible] | 3 | | 91 | .63 |
| 4 | 106 1/2 | .81 | 9 Pm Jan 5th | 16.[illegible] | 2 | | 90 | .65 1/4 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.6 | .798 | | 75.14 | | | 91.6 | .649 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.01 |
| At 48 3/4 Candles. | [illegible] |

ORDER No. 26 Edison #611

At 31½ Candles. Test Started 10.2 12-23-93 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | |
| 2 | 103½ | .62 | 10.31 pm 10-23 | .31 | 1 | | 92½ | .52 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 103.5 | .62 | | | | | 92.5 | .52 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At 31½ Candles. | 259 |

ORDER No. 27 Edison #70

At 19½ Candles. Test Started 9.00 pm 12-23-93 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 92 | .43 | 11.05 am 12-23 | 7.05 | 3 | | 88 | .40 |
| 2 | 92¾ | .43 | 9.12 am 12-23 | .12 | 1 | | 88¾ | .46 |
| 3 | 92¾ | .43 | 11.05 am 12-23 | 7.05 | | | 88½ | .47 |
| 4 | 92¾ | .43 | 11.05 " 12-23 | 7.05 | | | 88¼ | .48 |
| 5 | 94 | .48½ | 11.05 am 12-23 | 2.50 | 2 | | 89¼ | .49 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 92.9 | .431 | | 4.53 | | | 88.6 | .806 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 333 |
| At 19½ Candles. | 342 |

482 | 8.20 pm 1-10-96 | 2.05 pm 1-13-96 | 8.50 pm. 1.14.96 | 8.20 pm. 1.15.96

0000 s. 128. 145.15 170.15 186.40

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .44 | | | 11¾ | .430 | | | 11½ | 42¾ | | | 10½ | .424 | | | 10½ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11¾ | | | | 11½ | | | | 10½ | | | | 10½ | | | | | | | | |
| % | | | | 40.4 | | | | 40. | | | | 36.5 | | | | 35.7 | | | | | | | | |

128

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .09 | | | 6½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 6½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 40.3 | | | | | | | | | | | | | | | | | | | | |

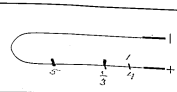
| 82 | 9.20 am 1-2-94 | | | | 9.15 pm 1-3-94 | | | | 10.05 pm 1-6-94 | | | | 7.45 am 1-7-94 | | | | 10. pm 1-7-94 | | | | 10.20 pm 1-8-94 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 24 | | | | 58.55 | | | | 58.45 | | | | 70.25 | | | | 81.43 | | | | 99 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 48 | | 66.5 | 19 | 47 | | 58.3 | 16 3/4 | | | | | 46 | | 48.7 | 14 | 45 | | 47.8 | 13 3/4 | 45 | | 45.9 | 13 |
| 3 | 48 | | 62.4 | 18 | 47 | | 55.4 | 16 | | | 54.8 | 15 3/4 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 49 | | 63 | 18 1/2 | 48 | | 58.8 | 16 3/4 | | | 58.1 | 15 | 47 | | 47 | 14 1/2 | 45 1/2 | | 47.8 | 13 3/4 | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.5 | | | | 16.5 | | | | 15.7 | | | | 14.3 | | | | 13.3 | | | | 13 |
| % | | | | 64.8 | | | | 57.4 | | | | 53.4 | | | | 47.8 | | | | 47.8 | | | | 48.9 |

| | 24 | | | | 58.55 | | | | 58.45 | | | | 70.25 | | | | 81 1/3 | | | | 99 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 42 1/2 | | | 11 | 42 | | | 9 3/4 | | | | | 40 1/2 | | | 7 1/2 | 41.0 | | | 7 1/2 | 39 3/4 | | | 7 |
| 3 | 42 3/4 | | | 10 1/2 | 42 | | | 9 1/4 | 41 | | | 8 1/2 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 48 | | | 10 1/2 | 42 1/2 | | | 9 1/4 | 42 | | | 8 1/2 | 41 1/2 | | | 7 1/4 | 41.1 | | | 7 1/2 | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 10.5 | | | | 9.42 | | | | 8.5 | | | | 7.52 | | | | 7 1/2 | | | | 7 |
| % | | | | 64.1 | | | | 57 | | | | 51.1 | | | | 45.2 | | | | | | | | |

ORDER No. 28 Edison #3

At 28 1/4 Candles. Test Started 9/10/91 12 30 90

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 8 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116 1/2 | .51 | 6.30 P.M. Dec 20/90 | | 1 | | 100 1/2 | .45 1/2 |
| 2 | 111 | .51 | 6.25 P.M. Dec 16/90 | 6.3 | 115 | 5 | 100 1/2 | .45 |
| 3 | 109 1/2 | .52 | 11.35 P.M. | 47.35 | | | 99 1/2 | .48 |
| 4 | 111 1/4 | .51 | 8.00 P.M. Dec 7/90 | | | | 101 | .45 |
| 5 | 108 1/2 | .52 | 8.00 P.M. Dec [illegible] | | | | 98 1/2 | .48 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.3 | .514 | | 74.2 | | | 99.1 | .453 |

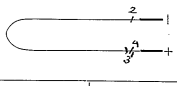



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.83 |
| At 28 1/4 Candles. | 3.28 |

ORDER No. 29 Edison #17

At 43 Candles. Test Started 9/10/91 12 30 90

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 100 1/2 | .90 | 7.05 P.M. Dec 20/91 | [illegible] | 2 | | 88 | .71 1/2 |
| 2 | 107 1/2 | .84 | 11.05 P.M. Dec 11/91 | [illegible] | 1 | | 92 | .67 1/2 |
| 3 | 107 1/2 | .84 | 9.00 A.M. " 3/91 | [illegible] | 4 | | 93 1/2 | .66 1/2 |
| 4 | 105 1/4 | .85 1/2 | 7.30 P.M. " 3/91 | [illegible] | 3 | | 90 1/2 | .68 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105.14 | .809 | | 3[illegible] | | | 90.3 | .6841 |

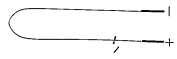



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.03 |
| At 43 Candles. | 1.61 |

ORDER No. 30 Edison 59

At 47 3/4 Candles. Test Started 9,[illegible] 1-2-96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 1/2 | .96 | 4.34 pm Jan. 2 | 2:19 | 1 | | 91 1/4 | .75 |
| 2 | 110 1/2 | " | | | 7 | | 98 1/2 | .69 |
| 3 | " | | | | | | 95 1/4 | .75 |
| 4 | " | " | | | | | 93 1/4 | .75 |
| 5 | " | " | | | | | 91 3/4 | .75 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 1/2 | .96 | | | | | 101.1 | .617 |

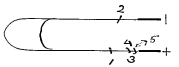


| | Candles per H. P. |
|---|---|
| At 16 Candles. | [illegible] |
| At 47 3/4 Candles. | 33.9 |

ORDER No. 31 Edison 5[illegible]

At 60 1/4 Candles. Test Started [illegible] At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 93 | .128 | 3.05 pm Jan. 2 | 53 | 2 | | 76 | .96 |
| 2 | 93 1/2 | .128 | 3.36 pm Jan. 2 | [illegible] | 4 | | 76 | .95 |
| 3 | 91 1/2 | .128 | 3.07 pm Jan. 2 | .53 | 1 | | 75 | 1.00 |
| 4 | 93 | .128 | 3.26 pm Jan. 2 | 1.11 | 3 | | 73 3/4 | .96 |
| 5 | 93 | 1.27 1/4 | Broken filing! | | | | 75 3/4 | .96 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 92.08 | .128 | | [illegible] | | | 75.7 | .966 |

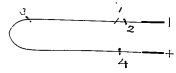


| | Candles per H. P. |
|---|---|
| At 16 Candles. | 16.3 |
| At 60 1/4 Candles. | 85.1 |

ORDER No. 32 Edison 55

At 111 Candles. Test Started 7:11 PM 1 3 56 At 11 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 93 1/4 | .333 | 7. PM Jan 2nd | [illegible] | 1 | | [illegible] | .11 1/4 |
| 2 | 104 1/4 | .77 1/4 | 3:50 PM Jan 2 | 1.13 | | | 97 1/2 | .6 1/8 |
| 3 | 48 | .79 1/2 | 5:45 PM Jan 2 | [illegible] | 3 | | 95 | .6 3/4 |
| 4 | 99 | .81 1/2 | 355 Jan 2 | [illegible] | 2 | | 88 1/2 | .6 3/4 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99 1/4 | .526 | | 2.[illegible] | | | 96.2 | [illegible] |

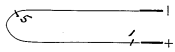



| | Candles per H. P. |
|---|---|
| At 11 Candles. | [illegible] |
| At [illegible] Candles. | [illegible] |

ORDER No. 33 Edison 57

At 56 Candles. Test Started 6:33 PM 1 2 56 At Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 3/4 | 1.07 | 3.30 Pm. Jan 2 | [illegible] | 2 | | 88 3/4 | .91 1/2 |
| 2 | do | do | | | | | 93 3/4 | .71 1/2 |
| 3 | " | " | | | | | 94 | .71 |
| 4 | " | " | | | | | 91 1/2 | .74 |
| 5 | 107 | 99 | 330 Pm Jan 2. | 2.35 | 1 | | 88 3/4 | .75 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.07 | 1.03 | | 2.35 | | | 90.75 | .7455 |

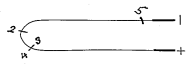



| | Candles per H. P. |
|---|---|
| At 6 Candles. | 171 |
| At 56 Candles. | 3844 |

ORDER NO. 811 Edison 4.9

At 8 7/4 Candles. Test Started 1.33 pm 1-12-96 At Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 108 1/4 | .72 | 3.02 pm Jan 2 | 1.8 | | 1 | | 91 1/4 | .38 |
| 2 | 94 1/2 | .73 | 3.13 pm Jan 2 | | | 2 | | 87 | .39 |
| 3 | 107 | .69 | 3.13 pm Jan 2 | | | 3 | | 94 1/4 | .37 1/4 |
| 4 | 107 1/4 | .72 | 3.40 pm Jan 2 | 1.5 | | 4 | | 94 | .37 1/4 |
| 5 | 108 | .70 | 3.30 pm Jan 2 | | | 5 | | 93 | .37 |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | 105 | .71 | | 1.3 | | | | 92.09 | .381 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 3.23 |
| At 7 Candles. | .5 |

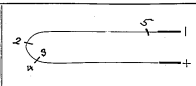
| 1892 | 3.PM 1-13-96 | | | | 9pm. 1-14-96 | | | | 8.20pm. 1-15-96 | | | | 9.55pm. 1-16-96 | | | | 4.15pm. 1-18-96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOOD L. | 110.35 | | | | 132.45 | | | | 148.35 | | | | 166.10 | | | | 192.30 | | | | | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .73 1/4 | | 138 | 16 1/4 | .72 1/4 | | 37.9 | 14 1/2 | .72 1/4 | | 39.2 | 15 | .72 1/2 | | 39.2 | 15 | .71 | | 36.6 | 14 | | | | |
| 4 | .73 1/4 | | 35.5 | 22 1/4 | .73 1/4 | | 52.9 | 20 1/2 | .70 1/2 | | 57.6 | 19 3/4 | .70 | | 49 | 18 3/4 | .69 3/4 | | 46.4 | 17 3/4 | | | | |
| 5 | .73 1/4 | | 42.5 | 16 1/4 | .73 | | 39.9 | 15 1/4 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 16.1 | | | | 16.67 | | | | 17.37 | | | | 16.87 | | | | 15.87 | | | | |
| % | | | | 47.1 | | | | 43.6 | | | | 45.4 | | | | 44.1 | | | | 41.5 | | | | |

ORDER NO. 84 Edison

At [illegible] Candles. Test Started [illegible]

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108¼ | .72 | 3.02 pm | 1.[illegible] | 1 | | 4¼ | .28 |
| 2 | 99½ | .71 | 3.13 pm | [illegible] | [illegible] | | 57 | .29 |
| 3 | 107 | .19 | 3.13 pm | [illegible] | 3 | | 44¼ | .37¼ |
| 4 | 107¼ | .72 | 3.40 pm | 1.[illegible] | 4 | | 44 | .37¼ |
| 5 | 104 | .70 | 3.55 pm | [illegible] | 5 | | 43 | .4[illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105 | .71 | | 1.3 | | | 42.05 | .251 |

At [illegible] Candles.




| | Candles per H. P. |
|---|---|
| At 16 Candles. | [illegible] |
| At [illegible] Candles. | 5 |

#79² Lamp 4 – 1.11.96. 96 hours

Reading before new Vacuum at high cp.

| V | A | C.P |
|---|---|---|
| 96 | 73¼ | 17 |

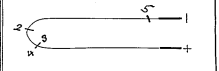
Reading after new Vacuum at high cp

| V | A | C.P |
|---|---|---|
| 96 | 72¼ | 17 |

Reading after Carbon was placed in new bulb showing change in cp owing to discoloring of bulb.

| V | A | C.P |
|---|---|---|
| 96 | 72 | 22½ |

ORDER No. 324 Edison 39




At 1 3/4 Candles. Test Started 1:33 PM 1-7-98 At Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103 3/4 | .72 | 3.03 Pm | 1.05 | | 1 | | 97 1/4 | .55 |
| 2 | 99 1/2 | .71 | 2.13 Pm | | | | | 97 | .59 |
| 3 | 107 | .69 | 3.13 Pm | | | 3 | | 97 1/4 | .57 1/4 |
| 4 | 107 1/4 | .72 | 3.40 Pm | 1.05 | | 4 | | 97 | .59 |
| 5 | 104 | .70 | 3.33 Pm | | | 5 | | 97 | .57 |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | 103 | .71 | | 1.3 | | | | 97.05 | .57 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 322 |
| At 32 Candles. | 15 |

| 1998 | 8:15 PM 1-6-98 | | | | 10.02 Am 1-7-98 | | | | 10.05 PM 1-7-98 | | | | 10:30 PM 1-8-98 | | | | 10:20 PM 1-9-98 | | | | 8:35 PM 1-10-98 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HOUR L. | 20.50 | | | | 32.35 | | | | 43 3/8 | | | | 61.05 | | | | 75.55 | | | | 90.10 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 77 | | 55.5 | 25 | 76 | | 56.7 | 21 1/4 | 75.5 | | 52.3 | 20 | .74 | | 44.4 | 17 | 71 | | 44.4 | 17 | 72.2 1/4 | | 47.1 | 18 |
| 3 | 77 3/4 | | 55.4 | 25 | 75 1/4 | | 56.4 | 21 1/4 | 75 3/4 | | 52.9 | 20 1/4 | 75.2 | | 50.3 | 18 1/4 | 71 1/2 | | 44.2 | 17 | 71 1/4 | | 47.1 | 18 |
| 4 | 78 | | 54.7 | 24 1/2 | 75 | | 54.9 | 21 | 75 | | 49.7 | 19 | .74 | | 49 | 18 1/4 | 73 | | 45.7 | 17 1/2 | 72 | | 43.1 | 17 1/2 |
| 5 | 77 3/4 | | 54 | 24 1/2 | 77 | | 53.3 | 20 | 75 3/4 | | 48 | 18 1/2 | 75 | | 46.4 | 17 1/4 | 75 | | 42.5 | 16 1/2 | 74 1/4 | | 41.2 | 15 3/4 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24 3/4 | | | | 21 | | | | 19.4 | | | | 18.19 | | | | 16.34 | | | | 17 |
| % | | | | 67.7 | | | | 57.9 | | | | 54.8 | | | | 47.5 | | | | 44 | | | | 44.4 |

| | 20.50 | | | | 32.35 | | | | 43 3/8 | | | | 61.05 | | | | 75.55 | | | | 90.10 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 63 | | | 9 1/2 | 62 | | | 7 1/2 | 62 | | | 7 1/2 | 61 1/4 | | | 7 | 60 | | | 6 1/4 | 59 | | | 6 1/2 |
| 3 | 63 | | | 9 1/4 | 62 1/2 | | | 7 1/4 | 62 1/2 | | | 7 1/2 | 61 1/4 | | | 7 1/4 | 61 | | | 6 1/2 | 60 | | | 6 1/4 |
| 4 | 63 | | | 8 3/4 | 61 1/4 | | | 7 1/2 | 61 | | | 7 1/2 | 62 1/4 | | | 7 | 59 1/2 | | | 6 1/4 | 60 | | | 6 |
| 5 | 64 | | | 9 | 60 1/2 | | | 7 | 60 | | | 7 1/4 | 62 1/4 | | | 6 1/4 | 62 | | | 6 1/2 | 61 1/2 | | | 6 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 9 1/4 | | | | 7.32 | | | | 7.44 | | | | 6.5 | | | | 6.33 | | | | 6.14 |
| % | | | | 57.8 | | | | 47.7 | | | | 46.5 | | | | | | | | 39.8 | | | | 38.4 |

ORDER No. 84 Edison 8 p

At 8 1/2 Candles. Test Started 1.5 2 1/2 1-3-96

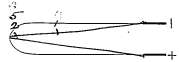
| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | At Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 105 1/4 | .72 | 3.03 p.m. Jan. 5 | 1.5 | 1 | | 97 1/2 | .75 |
| 2 | 99 1/2 | .73 | 3.13 p.m. Jan. 5 | | 2 | | 87 | .79 |
| 3 | 107 | .79 | 3.13 p.m. Jan. 2 | | 3 | | 94 1/4 | .77 1/4 |
| 4 | 107 1/4 | .77 | 3.40 p.m. Jan. 2 | 1.25 | 4 | | 94 | .79 1/4 |
| 5 | 105 | .76 | 3.30 p.m. Jan. 2 | | 5 | | 93 | .79 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105 | .71 | | 1.3 | | | 92.03 | .781 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 3.3 |
| At 8 1/2 Candles. | 5 |

ORDER No. 85 Edison 8 p

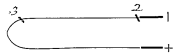
At 38 1/4 Candles. Test Started 8.25 a.m. 1-3-96

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 95 1/4 | .81 | 7.34 a.m. Jan. 6 | 14.01 | 1 | | 82 | .66 1/4 |
| 2 | 95 1/2 | .83 | 9 a.m. Jan. 6 | | 2 | | 81 1/4 | .67 1/4 |
| 3 | 95 | .82 | 7.45 a.m. 1.21.96 | 270.15 | 5 | | 81 1/2 | .67 |
| 4 | 96 | .79 1/2 | 10.45 a.m. Jan. 20 | 197.15 | 4 | | 82 | .65 |
| 5 | 95 1/2 | .80 1/2 | 8.10 p.m. Jan. 15 | 148.25 | 3 | | 82 1/2 | .66 1/2 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 95.45 | .81 2 | | 135.02 | | | 81.85 | .664 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 3.19 |
| At 38 1/4 Candles. | [illegible] |

ORDER No. 61 Edison #90




At 19 Candles. Test Started 5.23 Pm. 1.11.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | 30 High | | | | | 97½ | .79 |
| 2 | 104½ | .72 | | | | 92 | .66 |
| 3 | 107½ | .72½ | | | | [illegible] | [illegible] |
| 4 | 30 High | | | | | [illegible] | [illegible] |
| 5 | Broken Glass | | | | | 90 | .78 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 107 | 72½ | | 2.04 | | 93.1 | 0.74 |

Candles per H. P.

At 16 Candles. 21.6

At Candles.

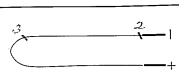
| Section | 10.40 a.m. 1.22.97 | | | | 3.20 p.m. 1.23.96 | | | | 3 p.m. 1.24.96 | | | | 11.05 a.m. 1.27.96 | | | | 1.45 p.m. 1.28.96 | | | | 11.40 a.m. 1.29.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 225.40 | | | | 245.20 | | | | 261 | | | | 284.05 | | | | 301.45 | | | | 316.40 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .58 | | | 13½ | .57½ | | | 13 | .57½ | | | 12¾ | .56 | | | 11½ | .46½ | | | 11½ | .56¾ | | | 12¾ |
| 3 | .54 | | | 13½ | .53¾ | | | 13 | .53¾ | | | 12¾ | .52½ | | | 11½ | .46½ | | | 12½ | .52¾ | | | 12 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 13.5 | | | | 13 | | | | 12¾ | | | | 11½ | | | | 12 | | | | 12.375 |
| % | | | | 42.2 | | | | 40.6 | | | | 39.8 | | | | 35.9 | | | | ~~38.8~~ 37.5 | | | | 38.6 |

ORDER No. 16 Edison #90

At 19 Candles. Test Started 5:23 PM 1-11-96

At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | | | | | 97 3/4 | .59 |
| 2 | 104 1/2 | .72 | [illegible] | | | | 92 | .56 |
| 3 | 107 1/2 | .72 1/4 | [illegible] | | | | [illegible] | [illegible] |
| 4 | [illegible] | [illegible] | | | | | | |
| 5 | Broken Glass | | | | | | 90 | .58 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107 | 72 1/2 | | 2.04 | | | 93.1 | 0.57 1/4 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.16 |
| At Candles. | |

| | 5:00 PM 1-10-96 | | | | 8:10 PM 1-10-96 | | | | 9:05 pm 1-14-96 | | | | 8:45 pm 1-15-96 | | | | 10:25 pm 1-16-96 | | | | 4:25 pm 1-18-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Avg. L. | 88 | | | | 108 1/2 | | | | 119.45 | | | | 136.30 | | | | 164.05 | | | | 189.10 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .60 | | 53.1 | 17 | .60 | | 58.6 | 16 | .58 1/2 | | 47.6 | 15 1/4 | .59 | | 46.1 | 14 3/4 | .59 | | 46.1 | 14 3/4 | .58 | | 44.5 | 14 1/4 |
| 3 | .58 1/4 | | 51.6 | 16 1/2 | .55 | | 58.8 | 16 1/4 | .58 1/2 | | 47.7 | 15 1/4 | .55 | | 46.9 | 15 | .55 | | 46.1 | 14 1/4 | .54 3/4 | | 44.5 | 14 1/4 |
| 4 | .59 | | 52.7 | 17 | | | | | | | | | | | | | | | | | | | | |
| 5 | .59 | | 50. | 16 | .59 | | 58.8 | 16 1/4 | .58 1/4 | | 46.4 | 15 1/2 | .57 3/4 | | 45.3 | 14 1/2 | .57 3/4 | | 45.3 | 14 1/2 | .56 3/4 | | 43. | 13 3/4 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.57 | | | | 16.17 | | | | 15.3 | | | | 14 3/4 | | | | 14.44 | | | | 14.05 |
| % | | | | 47.8 | | | | 47.5 | | | | 47.9 | | | | 46.1 | | | | 45.5 | | | | 44 |

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .52 | | | 8 1/4 | | | | | | | | | | | | | | | | | | | | |
| 3 | .48 1/2 | | | 7 3/4 | | | | | | | | | | | | | | | | | | | | |
| 4 | .57 | | | 6 3/4 | | | | | | | | | | | | | | | | | | | | |
| 5 | .58 1/2 | | | 7 1/2 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 7.37 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 47.2 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 16 Edison #90

At 19 Candles. Test Started 5:23 PM 1-8-98 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | | | | 97½ | .57 |
| 2 | 104½ | .72 | | | | 97 | .56 |
| 3 | 107½ | .72½ | | | | [illegible] | [illegible] |
| 4 | 20 [illegible] | [illegible] | | | | [illegible] | [illegible] |
| 5 | Broken Glass | | | | | 90 | .58 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 107 | 72 | | 2.04 | | 93.1 | 0.57 |

3 2 1 +

Candles per H. P.

At 16 Candles. 216

At Candles.

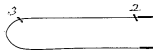
| Minutes 1000 L. | 5:23 PM 1-4-98 | | | | 5:40 PM 1-8-98 | | | | 10:20 AM 1-8-98 | | | | 9:10 AM 1-7-98 | | | | 8:50 PM 1-8-98 | | | | 4:35 PM 1-9-98 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | | | | 20.00 | | | | 30.25 | | | | 40½ | | | | 56.55 | | | | 72.40 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 62 | | 87.5 | 28 | 61 | | 77.3 | 24¾ | 58½ | | 68 | 21¾ | .60 | | 66.4 | 21½ | .57½ | | 58.6 | 18¾ | 57 | | 55.1 | 17 |
| 2 | 60 | | 87.5 | 28 | 62¾ | | 79.7 | 23¾ | 62 | | 67.4 | 21¾ | .61 | | 60.9 | 19½ | 61 | | 57.8 | 18½ | 60 | | 55.5 | 17¾ |
| 3 | 59 | | 89.5 | 28 | 59 | | 77.4 | 24¾ | 58 | | 64.1 | 20½ | .57½ | | 62.5 | 20 | 57 | | 54.7 | 17½ | 57 | | 55.5 | 17¾ |
| 4 | 64¾ | | 84.4 | 27 | 63 | | 65.6 | 21 | 62 | | 54.7 | 17½ | .60½ | | 52.3 | 15¾ | 60 | | 49.2 | 15¼ | 60 | | 45.3 | 14½ |
| 5 | 63 | | 90.6 | 29 | 62¾ | | 79.7 | 23½ | 62 | | 68 | 21¾ | .63 | | 67.2 | 21½ | .60½ | | 55.4 | 19 | 60 | | 56.2 | 18 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 28 | | | | 24¼ | | | | 20.6 | | | | 19.8 | | | | 17.9 | | | | 17 |
| % | | | | 81.5 | | | | 76.9 | | | | 65.4 | | | | 62.7 / 61.9 | | | | 55.9 | | | | 53.1 |

| | 10 | | | | 20.05 | | | | 30.25 | | | | 40½ | | | | 56.55 | | | | 72.40 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .53½ | | | 14½ | .53 | | | 12½ | .52¾ | | | 11 | .53½ | | | 10¼ | .51 | | | 9 | .50¾ | | | 8¼ |
| 2 | .55 | | | 15 | .52¾ | | | 12¾ | .53 | | | 11 | .53 | | | 10¼ | .53 | | | 9¾ | .52¼ | | | 8¾ |
| 3 | .52 | | | 14½ | .54 | | | 12¾ | .53¾ | | | 10¾ | .54½ | | | 10 | .49½ | | | 9¼ | .48 | | | 7¾ |
| 4 | .55¾ | | | 15½ | .52¾ | | | 10½ | .53 | | | 8½ | .52 | | | 8.4 | .52 | | | 7¾ | .51 | | | 8¼ |
| 5 | .52½ | | | 15¼ | .53 | | | 12 | .52¾ | | | 10 | .54½ | | | 7½ | .52 | | | 7 | .51 | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14¾ | | | | 12.1 | | | | 10¼ | | | | 9.1 | | | | 8.55 | | | | 8.25 |
| % | | | | 87.1 | | | | 76.1 | | | | 64 | | | | 60.4 | | | | 57 | | | | 51.8 |

ORDER No. 16 Edison 90

At 19 Candles. Test Started 5.23 PM 1.31.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | | | | 97½ | .59 |
| 2 | 104½ | .72 | | | | 92 | .60 |
| 3 | 107½ | .72½ | [illegible] | | | [illegible] | [illegible] |
| 4 | [illegible] | [illegible] | | | | | |
| 5 | [illegible] | [illegible] | | | | 90 | .58 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 107 | 72½ | | 2.04 | | 93.1 | .57½ |

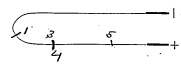



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.16 |
| At Candles. | |

ORDER No. 17 Special

At 32 Candles. Test Started [illegible] 96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 100½ | .63 | 3.45 p.m. 1.10.96 | [illegible] | 1 | 90 | .57 |
| 2 | 99½ | .65 | 4 p.m. 2.3.96 | 376.50 | 4 | 89 | .58½ |
| 3 | 107½ | .62 | 9.15 p.m. 1.30.96 | 341.15 | 3 | 90½ | .53½ |
| 4 | 99½ | .66 | Taken down by Mr Edison | | | 89 | .58 |
| 5 | 99 | .64 | 4.45 p.m. 1.18.96 | 189.30 | 2 | 87½ | .55 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 100 | .63 | | 247.45 | | 89.2 | .57 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.45 |
| At 32 Candles. | 3.77 |

Put away in box

| 43B | 3.50 p.m. 1.23.96 | | | | 3.30 p.m. 1.24.96 | | | | 1.10 p.m. 1.27.96 | | | | 2.15 p.m. 1.28.96 | | | | 2.10 p.m. 1.29.96 | | | | 9 a.m. 2.28.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 s. | 232.05 | | | | 247.45 | | | | 271.25 | | | | 288.30 | | | | 304.25 | | | | 661.50 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .55 3/4 | | | 14 1/4 .55 | | | | 14 .54 1/2 | | | | 12 3/4 .55 | | | | 13 .55 | | | | 13 .50 | | | | 10 |
| 2 | .55 1/2 | | | 12 1/2 .55 1/4 | | | | 13 .54 1/2 | | | | 11 3/4 .55 | | | | 11 1/2 .55 | | | | 11 3/4 .52 | | | | 9 1/2 |
| 3 | .59 1/2 | | | 15 1/2 .59 1/4 | | | | 13 3/4 .58 1/2 | | | | 14 1/2 .58 1/2 | | | | 15 .58 1/2 | | | | 14 3/4 .54 | | | | 10 3/4 |
| 4 | .52 | | | 13 1/2 .52 | | | | 13 1/2 .51 | | | | 12 1/2 .51 1/2 | | | | 12 1/2 .51 1/2 | | | | 12 1/2 .48 | | | | 10 |
| 5 | .54 | | | 11 1/2 .54 | | | | 11 1/2 .53 1/2 | | | | 10 1/2 .53 3/4 | | | | 10 1/2 .53 3/4 | | | | 10 .52 | | | | 9 1/4 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.4 | | | | 13.50 | | | | 12.35 | | | | 12.55 | | | | 12.4 | | | | 9.95 |
| % | | | | 40.6 | | | | 41. | | | | 37.4 | | | | 38 | | | | 37.6 | | | | 30.1 |

| 43B | 3.15 p.m. 5.18.96 | | | | 9.40 p.m. 8.27.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1517.10 | | | | 2105.25 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 8 .50 | | | | 6 1/2 | | | | | | | | | | | | | | | | |
| 2 | .51 | | | 7 3/4 .50 | | | | 6 3/4 | | | | | | | | | | | | | | | | |
| 3 | .52 | | | 7 3/4 .50 | | | | 6 3/4 | | | | | | | | | | | | | | | | |
| 4 | .47 | | | 8 1/2 .47 | | | | 7 1/4 | | | | | | | | | | | | | | | | |
| 5 | .51 | | | 9 .52 | | | | 9 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 8.15 | | | | 7.2 | | | | | | | | | | | | | | | | |
| % | | | | 24.7 | | | | 21.8 | | | | | | | | | | | | | | | | |

| #41 | 3:20 pm 1-13-96 | | | | 9:15 pm 1-14-96 | | | | 8:45 pm. 1-15-96 | | | | 10:30 p.m. 1-16-96 | | | | 4:35 pm. 1-20-96 | | | | 11 a.m. 1-22-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 94.20 | | | | 116 | | | | 132.25 | | | | 150.10 | | | | 176.15 | | | | 212.15 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .60 | | 51.5 | 20 | .55 | | 28.3 | 18 | .58 | | 53 | 17 | .57 | | 51.5 | 17 | .57 | | | 15 | .56 | | | 14 |
| 2 | .57 | | 51.5 | 17 | .55 | | 22.3 | 17 | .57 | | 48.5 | 16 | .57 | | 53.7 | 18 | .56 | | | 14 | .56 | | | 13 |
| 3 | .60 | | 53.7 | 22 | .64 | | 22.3 | 21 | .65 | | 60.6 | 20 | .62 | | 58.3 | 19 | .61 | | | 18 | .60 | | | 17 |
| 4 | .57 | | 57.3 | 18 | .54 | | 23.2 | 16 | .54 | | 51.5 | 17 | .53 | | 48.5 | 16 | .58 | | | 15 | .52 | | | 14 |
| 5 | .57 | | 46.9 | 15 | .55 | | 20.1 | 13 | .55 | | 43.2 | 14 | .55 | | 39.4 | 13 | .54 | | | 12 | .54 | | | 11 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17.3 | | | | 17.2 | | | | 16.95 | | | | 16.2 | | | | 15 | | | | 14.2 |
| % | | | | 50.7 | | | | 52.1 | | | | 51.4 | | | | 49.1 | | | | 45.5 | | | | 43 |

| 42B | 3 p.m. 1-24-96 | | | | 1:10 p.m. 1-27-96 | | | | 2:15 p.m. 1-28-96 | | | | 2:10 p.m. 1-29-96 | | | | 9 a.m. 2-28-96 | | | | 3 p.m. 5-18-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 244.45 | | | | 268.55 | | | | 286 | | | | 301.55 | | | | 659.20 | | | | 1514.40 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .55 | | | 11 | .55 | | | 10 | .55 | | | 10 | .55 | | | 10 | | | | | | | | |
| 2 | .66 | | | 15 | .66 | | | 13 | .66 | | | 14 | .65 | | | 13 | .62 | | | 11 | .55 | | | 8 |
| 3 | .62 | | | 11 | .61 | | | 10 | .61 | | | 10 | .61 | | | 10 | .58 | | | 8 | .55 | | | 6 |
| 4 | .70 | | | 13 | .69 | | | 13 | .69 | | | 13 | .69 | | | 13 | .63 | | | 9 | | | | |
| 5 | .59 | | | 14 | .58 | | | 13 | .59 | | | 13 | .58 | | | 13 | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.1 | | | | 12.05 | | | | 12.3 | | | | 12 | | | | 9.55 | | | | 7 |
| % | | | | 36.9 | | | | 33.9 | | | | 34.6 | | | | 33.8 | | | | 27 | | | | 19.7 |

| 41 B 1000 L. | 9:30 pm 1-5-96 | | | | 3:00 pm 1-7-96 | | | | 8:45 pm 1-7-96 | | | | 8:40 am 1-8-96 | | | | 8:45 pm 1-8-96 | | | | 9:00 am 1-10-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10.30 | | | | 20.30 | | | | 28.14 | | | | 41.40 | | | | 57.40 | | | | 71.40 | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. |
| 1 | 69½ | | 28.5 | 26 | 69 | | 78.8 | 25 | | | 74.2 | 22½ | 62 | | 66.6 | 22 | 62 | | 66.6 | 22 | 60 | | 50.5 | 20 |
| 2 | 65 | | 80.3 | 21½ | 64 | | 74.7 | 24½ | 63 | | 72.8 | 24 | 62½ | | 66.6 | 22 | 61½ | | 52.1 | 20½ | 60 | | 55.5 | 19½ |
| 3 | 62½ | X | 82.4 | 23½ | 61 | X | 75 | 24½ | 69 | | 103.4 | 24½ | 57 | | 80.3 | 21½ | 55 | | 75 | 19½ | 55 | | 69.7 | 23 |
| 4 | 57 | | 72.7 | 24 | 57½ | | 66.5 | 22 | 57½ | | 63.6 | 21 | 57 | | 69.8 | 19½ | 55 | | 56.1 | 18½ | 53½ | | 54.1 | 18½ |
| 5 | 60½ | | 78.8 | 23 | 59 | | 70.4 | 23½ | 57½ | | 67.4 | 22½ | 57½ | | 69.8 | 19½ | 55½ | | 53 | 17½ | 53½ | | 47.7 | 17½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | 25.2 | 5 | | | | 22 | | | | 20.5 | | | | 7.4 |
| Avg. | | | | 23.5 | | | | 23.1 | | | | 22.4 | | | | 19.4 | | | | 18.5 | | | | 18.2 |
| % | | | | 78.4 | | | | 77 | | | | 74.7 | | | | 66.5 | | | | 62.5 | | | | |

| | 10.80 | | | | 20.30 | | | | 28.14 | | | | 41.40 | | | | 57.40 | | | | 71.40 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 57 | | | 12½ | 58 | | | 12½ | .55 | | | 12 | 57 | | | 11½ | 52½ | | | 10½ | 52 | | | 9½ |
| 2 | 55 | | | 13 | 57½ | | | 11 | .57 | | | 11½ | 55½ | | | 10½ | 52 | | | 9½ | 51½ | | | 9 |
| 3 | 55 | X | | 12½ | 57½ | X | | 12 | .59 | | | 12½ | 57½ | | | 13 | 57 | | | 12 | 52 | | | 11 |
| 4 | 49½ | | | 10½ | 47½ | | | 9½ | .48 | | | 9 | 45 | | | 8½ | 47 | | | 9½ | 44½ | | | 7½ |
| 5 | 52½ | | | 13½ | 57 | | | 11½ | .57 | | | 11½ | 50 | | | 10 | 49½ | | | 8½ | 45 | | | 7 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |

| Avg. | 100.45 | 60.05 | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | |

| 42 B | 9:30 pm 1-14-96 | | | | 2:55 pm 1-15-96 | | | | 10:50 pm 1-16-96 | | | | 4:45 pm 1-18-96 | | | | 11:10 am 1-22-96 | | | | 4:40 pm 1-23-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 113 | | | | 129.25 | | | | 147.20 | | | | 173.15 | | | | 209.55 | | | | 229.45 | | | |
| No. | A | R | % V | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .59½ | | 41.5 | 14¾ | .59 | | 42.2 | 15 | .59 | | 39.4 | 14 | .58 | | 37.3 | 13.25 | .57 | | | 12 | .56½ | | | 11½ |
| 2 | .70 | | 50.7 | 18 | .70 | | 50.7 | 18 | .69 | | 47.2 | 16½ | .68 | | 45.1 | 16 | .68 | | | 16 | .67½ | | | 15½ |
| 3 | .67 | | 42.6 | 15 | .66 | | 42.2 | 15 | .65 | | 39.4 | 14 | .64 | | 36.6 | 13 | .63½ | | | 11½ | .63½ | | | 12½ |
| 4 | .72½ | | 38.7 | 13½ | .72 | | 35.4 | 14 | .72 | | 38 | 13½ | .71½ | | 37.3 | 13½ | .70½ | | | 13 | .70 | | | 13 |
| 5 | .62½ | | 46.8 | 16½ | .62½ | | 49.3 | 17½ | .62 | | 45.1 | 16 | .60½ | | 42.2 | 15 | .60 | | | 15 | .59½ | | | 14 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 15.6 | | | | 15.9 | | | | 14.85 | | | | 14.1 | | | | 12.55 | | | | 13.6 |
| % | | | | 43.9 | | | | 44.8 | | | | 41.8 | | | | 39.7 | | | | 35.2 | | | | 37.3 |

| | | |

ORDER No. 38 Edison B

At 33 Candles. Test Started 10 [illegible] At Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 82½ | 87½ | ✗ | | | | [illegible] | 87½ |
| 2 | 82½ | [illegible] | ✗ | | | | [illegible] | [illegible] |
| 3 | 12[illegible] | | See Smith Book 2 25 [illegible] | | | | [illegible] | [illegible] |
| 4 | 102½ | | | | | | [illegible] | [illegible] |
| 5 | 102 | | ✗ | | | | [illegible] | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | ✗ Fallen down | | 8/27/96 at 9 10 pm. Put up at 37 Walls. | | See order No. 93 | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.75 | 66.05 | | | | | 88.5 | [illegible] |

1 +

Candles per H. P.

At Candles. [illegible]

At Candles.

ORDER No. 39 Edison B

At 35½ Candles. Test Started 2 10 pm. 1.6 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104½ | 70 | 8.40 pm. 2.11.96 | 452.30 | 1 | | 90½ | .58½ |
| 2 | 91½ | 75½ | 2.30 pm. 11.16.96 | 2857.45 | Fallen down | | 70½ | .65 |
| 3 | 91½ | 78 | 9.05 pm. 10.28.96 | 2697.20 | 4 | | 80 | .58½ |
| 4 | 88 | 82½ | 3.15 pm. 3.2.96 | 687.50 | 3 | | 76½ | .67 |
| 5 | 94½ | 72 | 10 pm. 2.20.96 | 582.20 | 2 | | 82½ | .60½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 94.7 | 76.2 | | 1455.45 | | | 81.8 | .63 |

35 1 / 14 +

Candles per H. P.

At 16 Candles. 3.36

At 35½ Candles. 3.69

Edward Weber

Began 10.40 Pm. 1-9-96

Rate 13.30

| No. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .58½ | | 91.8 | .28 | | | | | | | | | | | | | | | | | | | | |
| 3 | .58½ | | 86.5 | .27 | | | | | | | | | | | | | | | | | | | | |
| 4 | .60 | | 97.5 | .28½ | | | | | | | | | | | | | | | | | | | | |
| 5 | .58 | | 93.4 | .28½ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | .28.31 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 92.3 | | | | | | | | | | | | | | | | | | | | |

13.30

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .52 | | | 15½ | | | | | | | | | | | | | | | | | | | | |
| 3 | .57 | | | 14½ | | | | | | | | | | | | | | | | | | | | |
| 4 | .53 | | | 16¾ | | | | | | | | | | | | | | | | | | | | |
| 5 | .57½ | | | 7¼ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | .15½ | | | | | | | | | | | | | | | | | | | | |

1.35 pm. 1.29.96 9 am. 2.28.96

266 624

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .57½ | | | 13 | .52½ | | | 9¾ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 13 | | | | 9¾ | | | | | | | | | | | | | | | | |
| Ave. | | | | 35.4 | | | | 26.5 | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

| 48e 6000 L. | 4.55 p.m. 1.18.96 | | | | 11 a.m. 1.22.96 | | | | 3.20 p.m. 1.23.96 | | | | 3 p.m. 1.24.96 | | | | 11.05 a.m. 1.27.96 | | | | 1.45 p.m. 1.28.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 138.05 | | | | 174.25 | | | | 193.45 | | | | 209.25 | | | | 232.30 | | | | 250.10 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .60 | | | 15 3/4 | .59 | | | 15 | .58 1/2 | | | 14 1/4 | .58 3/4 | | | 14 1/2 | .57 1/4 | | | 13 1/2 | .57 3/4 | | | 13 1/2 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 15 1/2 | | | | 15 | | | | 14 1/4 | | | | 14 1/2 | | | | 13 1/2 | | | | 13 1/2 |
| Ave. | | | | 42.7 | | | | 40.8 | | | | 38.5 | | | | 37.5 | | | | 36.7 | | | | 36.7 |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

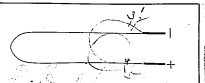
| Type 3 600 L. | 11.15 am 1-9-96 | | | | 10.15 pm 1-10-96 | | | | 4.0 pm 1-13-96 | | | | 9.40 pm 1-14-96 | | | | 9.40 pm 1-15-96 | | | | 10 pm 1-16-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10.45 | | | | 36.45 | | | | 57.05 | | | | 79.15 | | | | 96.15 | | | | 111.10 | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. |
| 1 | .75 | | 84.4 | 21 | .71 | | 58.8 | 22 | .70 | | 57.8 | 21½ | .67 | | 48.3 | 17½ | .66 | | 46.9 | 17½ | .65 | | 44.9 | 16½ |
| 2 | .73 | | 83 | 27 | | | | | | | | | | | | | | | | | | | | |
| 3 | .77 | | 86.6 | 30 | | | | | | | | | | | | | | | | | | | | |
| 4 | .70 | | 75 | 27½ | .66½ | | 61.9 | 22½ | 6.5 | | 61.2 | 22½ | .63½ | | 55.1 | 20½ | .63 | | 53.1 | 19½ | .62½ | | 52.4 | 19½ |
| 5 | .72½ | | 73.7 | 27 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 28½ | | | | 22.37 | | | | 21.37 | | | | 19 | | | | 18.37 | | | | 17.37 |
| Ave. | | | | 27.5 | | | | 60.9 | | | | 57½ | | | | 51.7 | | | | 50 | | | | 48.0 |

| | 10.45 | | | | 36.45 | | | |
|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .63½ | | | 13½ | .61 | | | 9½ |
| 2 | .62 | | | 12½ | | | | |
| 3 | .65 | | | 13½ | | | | |
| 4 | .58 | | | 11½ | .58½ | | | 9½ |
| 5 | .61 | | | 11½ | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Ave. | | | | 12.4 | | | | 9½ |
| | | | | 77.5 | | | | 57.4 |

ORDER No. [illegible]

At 30 Candles. Test Started [illegible]

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | At [illegible] Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | [illegible] | 62 | 3.55 pm. 1.8.96 | [illegible] | [illegible] | | [illegible] | [illegible] |
| 2 | 96 | [illegible] | 4.40 pm. 1.8.96 | 15 | [illegible] | | [illegible] | [illegible] |
| 3 | [illegible] | 63 | 1.30 pm. 1.8.96 | [illegible] | 2 | | | [illegible] |
| 4 | [illegible] | [illegible] | 6.43 " 1.8.96 | [illegible] | [illegible] | | [illegible] | [illegible] |
| 5 | [illegible] | [illegible] | 10.25 " 1.8.96 | [illegible] | [illegible] | | [illegible] | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | [illegible] | | | | | | |
| 10 | | | | | | | | |
| Avg. | 98.1 | 62.85 | | [illegible] | | | [illegible] | [illegible] |



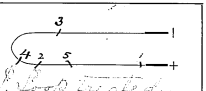

[illegible] Speed

| | Candles per H. P. |
|---|---|
| At [illegible] Candles. | [illegible] |
| At [illegible] Candles. | |

ORDER No. 41 [illegible] C

At 36 3/4 Candles. Test Started [illegible]

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 93 1/2 | 77 | 2.15 pm. 1.17.96 | 110.25 | 4 | | 81 | 64 1/2 |
| 2 | 95 | 79 1/2 | 11.45 am. 1.9.96 | [illegible] | 2 | | 84 1/2 | 66 |
| 3 | 91 | 80 1/2 | 8.35 pm. 1.9.96 | 10[illegible] | 1 | | 78 | 66 1/2 |
| 4 | 96 1/2 | 75 | 8.05 pm. 3.12.96 | 769.35 | 5 | | 83 | 62 1/2 |
| 5 | 92 1/2 | 79 | 10 am 1.10.96 | 25.30 | 3 | | 80 | 66 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 93.7 | 78.[illegible] | | 191.10 | | | 80.93 | 66.[illegible] |




V. Loop Inverted.

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 225 |
| At [illegible] Candles. | 37 |

Incident

Interval [illegible] [illegible] [illegible]

| # 42a | 9am 2.28.96 | | | | 3.15pm 5.18.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 593.15 | | | | 1447.15 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .61 | | | 9½ | .55¾ | | | 7 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | .61 | | | 7¾ | .55½ | | | 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | 6 | | | | | | | | | | | | | | | | |
| Ave. | | | | 8.62 | | | | 159 | | | | | | | | | | | | | | | | |
| % | | | | 22.8 | | | | | | | | | | | | | | | | | | | | |

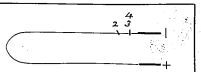
| | 10.10pm. 1.16.96 | | | | 4.10pm. 1.17.96 | | | | 11.30pm. 1.17.96 | | | | 5.30pm 1.18.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 hours after 2nd heat | | | | 20 hours after 2nd heat (2 measurements) | | | | After treating steam 3rd time | | | | | | | | | | | | | | | |
| No. | A | R | 4/6 | C.P. | A | R | 4/6 | C.P. | A | R | 4/6 | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .64 | | 74.6 | 24½ | .63 | | 68.7 | 22 | .63¼ | | 72.6 | 23¼ | .61¼ | | | 23 | | | | | | | | |
| 2 | .64¾ | | 68.7 | 22 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .59 | | 49.5 | 22¼ | .57¾ | | 60.9 | 19.5 | .58 | | 64.1 | 20½ | | | | | | | | | | | | |
| 5 | .58 | | 71.9 | 23 | .57¾ | | 67.2 | 21.5 | .57¼ | | 67.2 | 21½ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.94 | | | | 21 | | | | 21.75 | | | | 23 | | | | | | | | |
| % | | | | 7.7 | | | | 65.6 | | | | 68 | | | | 71.9 | | | | | | | | |

| #41 a | 10.40 a.m. 1.22.96 | | | | 3.30 p.m. 1.23.96 | | | | 1.40 p.m. 1.24.96 | | | | 11.05 a.m. 1.27.96 | | | | 1.45 p.m. 1.28.96 | | | | 2.38 p.m. 1.29.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 143.20 | | | | 163.10 | | | | 177.20 | | | | 201.45 | | | | 219.25 | | | | 235.15 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .66 4/7 | | | 16 1/2 | .66 | | | 15 4/7 | .65 1/2 | | | 14 1/2 | .46 1/2 | | | 13 1/2 | .64 3/7 | | | 13 1/2 | 64 3/7 | | | 13 1/2 |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | .67 3/7 | | | 13 1/2 | | | | | .65 1/7 | | | 11 1/2 | .65 | | | 10 1/4 | .65 1/2 | | | 11 1/7 | .65 | | | 10 3/7 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15 | | | | 15 1/7 | | | | 13 | | | | 12 1/7 | | | | 12.37 | | | | 12.1 |
| % | | | | 39.7 | | | | 40.4 | | | | 34.4 | | | | 33.1 | | | | 32.8 | | | | 32.1 |

| #13 a | 5.15 p.m. 1-13-96 | | | | 10.15 a.m. 1-14-96 | | | | 5 p.m. 1-14-96 after breathing pure oxygen | | | | 11.30 a.m. 1-15-96 | | | | 8 p.m. 1-15-96 | | | | 11.10 a.m. 1-16-96 after breathing pure oxygen some time | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9.40 | | | | 19 | | | | | | | | 12.30 after | | | | 20 after | | | | | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. |
| 1 | .67 | | 84.4 | 27 | .66 1/7 | | 71.9 | 23 | .66 1/2 | | 78.1 | 25 | .65 | | 78.1 | 25 | .65 | | 71.9 | 23 | .65 | | 75 | 24 |
| 2 | .61 | | 81.2 | 26 | .59 1/2 | | 66.4 | 21 1/7 | .60 | | 75 | 24 | .58 | | 71 | 22 3/7 | .57 | | 64.8 | 20 3/7 | .58 | | 68.7 | 22 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .63 | | 82.8 | 26 1/2 | .61 | | 64.8 | 20 3/7 | .61 1/2 | | 70.3 | 22 1/2 | .60 | | 69.5 | 22 1/2 | .60 | | 66.4 | 21 1/7 | .60 | | 67.2 | 21 1/2 |
| 5 | .62 | | 83.6 | 26 3/7 | .61 1/7 | | 70.3 | 22 1/2 | .61 | | 75 | 24 | .60 | | 74.2 | 23 1/7 | .59 | | 69.5 | 22 1/7 | .59 | | 68.7 | 22 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 26.86 | | | | 21.87 | | | | 23.87 | | | | 23.44 | | | | 21.81 | | | | 22.37 |
| % | | | | 83 | | | | 68.3 | | | | 74.6 | | | | 73.2 | | | | 68.2 | | | | 69.9 |

| No. | 4.40 pm. 1-11-96 | | | | 5 pm. 1-13-96 | | | | 9.50 pm. 1-14-96 | | | | 9.40 pm. 1.15.96 | | | | 11.05 pm. 1-16-96 | | | | 4.55 pm. 1-18-96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16.45 | | | | 27.45 | | | | 47.15 | | | | 63.05 | | | | 81.30 | | | | 107.20 | | | |
| | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. |
| 1 | .74 | | 78.8 | 29½ | .73 | | 70.2 | 25½ | .71 | | 57.6 | 21¾ | .70 | | 56.3 | 21½ | .69¾ | | 51.7 | 19½ | | | | |
| 2 | .80 | | 81.5 | 30¾ | .77 | | 67.5 | 25½ | | | | | | | | | | | | | | | | |
| 3 | .83¾ | | 88.7 | 33½ | .83½ | | 75.1 | 29½ | .80¾ | | 64.9 | 24½ | | | | | | | | | | | | |
| 4 | .85¾ | | 88.1 | 33¾ | .78 | | 74.2 | 28 | .80 | | 62.9 | 23¾ | .78 | | 57.6 | 21½ | .76¾ | | 51 | 19¼ | .68 | | 47 | 17¾ |
| 5 | .82¾ | | 84.8 | 32 | .79½ | | 71.8 | 27½ | .75 | | 55 | 20¾ | .73 | | 50.3 | 19 | .72 | | 47 | 17¾ | .64 | | 38.4 | 14¾ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 31.13 | | | | 27.4 | | | | 22.69 | | | | 20.66 | | | | 18.83 | | | | 16. |
| | | | | 34.4 | | | | 32.5 | | | | 60.1 | | | | 54.7 | | | | 49.7 | | | | 4 |

ORDER No. 42. Edison #42 B

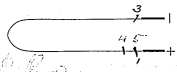



At $37\frac{3}{4}$ Candles. Test Started 1.15 p.m. 1.10.96 At 16 Candles.

Candles per H. P.
At 22 Candles.
At Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes). | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | $100\frac{1}{2}$ | $.70\frac{1}{2}$ | 11 30 p.m. 11.5.96 | 2727.20 | 5 | Yellowish | $86\frac{1}{2}$ | .69 |
| 2 | $84\frac{1}{2}$ | .85 | 10.50 a.m. 1.14.96 | 47.15 | 1 | | 72 | .71 |
| 3 | 88 | $.87\frac{1}{2}$ | 11 p.m. 1.13.96 | 58.25 | 2 | | 76 | .73 |
| 4 | 86 | .86 | 10.0 a.m. 1.17.96 | 58.25 | 3 | | 74 | .74 |
| 5 | $85\frac{1}{2}$ | [illegible] | 10 p.m. 7.3.96 | 1958.40 | 4 | | [illegible] | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 86.75 | .848 | | | | | [illegible] | [illegible] |

ORDER No. 43 Edison Patent B




At 32 Candles. Test Started 5.1 p.m. 7.1.96 At $\frac{1}{2}$ Candles.

Candles per H. P.
At 16 Candles.
At 32 Candles.

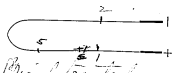
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes). | Order of breaking. | | Volts. | Amperes. | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | $94\frac{1}{2}$ | 1.9 | 9.30 p.m. 1.20.96 | 42.30 | 5 | | $84\frac{1}{2}$ | .59 | Read at end of Pictures |
| 2 | $98\frac{3}{4}$ | 6.3 | Broke by accident 10.10 p.m. | | 2 | | [illegible] | .53 | " " " " 20 " |
| 3 | $100\frac{1}{2}$ | 6.3 | 3 p.m. 1.13.96 | 7.2[illegible] | 1 | | 96 | $.57\frac{1}{2}$ | Break Vacuum Read again |
| 4 | 98 | 6.5 | 7.20 a.m. 1.18.96 | 72.35 | 3 | | $88\frac{1}{2}$ | .56 | at original 8 p at end of [illegible] |
| 5 | 92 | 6.4 | 9.50 a.m. 1.18.96 | 75.05 | 4 | | $88\frac{1}{2}$ | $.54\frac{1}{2}$ | 10 and 20 hours |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | 98.15 | .64 | | 62.24 | | | 87.9 | .55 | |

Put away in box

| B.M. | 1.40 p.m. 1.24.96 | | | | 10.05 a.m. 1.27.96 | | | | 11.15 a.m. 1.28.96 | | | | 10.40 a.m. 1.29.96 | | | | 1.45 p.m. 2.5.96 | | | | 8.25 p.m. 2.27.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 145.25 | | | | 168.50 | | | | 186. | | | | 201.25 | | | | 292.05 | | | | 545.10 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .49½ | | | 15¾ | .49 | | | 15¼ | .49½ | | | 15 | .49½ | | | 15¾ | .49 | | | 14¼ | | | | |
| 4 | .49 | | | 15¾ | .48¾ | | | 15 | .49 | | | 15¾ | .48½ | | | 15¼ | .48½ | | | 14½ | .45 | | | 13 |
| 5 | .50½ | | | 14¾ | .50 | | | 14 | .50 | | | 14¼ | .50 | | | 15 | .50 | | | 14½ | .47 | | | 13¼ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 15.42 | | | | 14¾ | | | | 14.92 | | | | 15.3 | | | | 14.42 | | | | 13.12 |
| % | | | | 96.4 | | | | 92.2 | | | | 93.2 | | | | 95.6 | | | | 90.1 | | | | 82 |

| Date | 10.50 p.m. 1.14.96 | | | | 10 p.m. 1.15.96 | | | | 11.15 a.m. 1.16.96 | | | | 5.05 p.m. 1.18.96 | | | | 11.20 a.m. 1.22.96 | | | | 2.30 p.m. 1.23.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 163 | | | | 32.30 | | | | 49.45 | | | | 75.35 | | | | 112.05 | | | | 131.15 | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 49 3/4 | | 100 | 16 | .50 | | 104 | 16 1/2 | .50 | | 104 | 16 1/4 | .48 1/2 | | 106 | 17 | | | | | | | | |
| 2 | 49 1/4 | | 103 | 16 | .49 1/2 | | 98.9 | 15 1/2 | .50 | | 101 | 16 1/4 | .49 | | 98.4 | 15 3/4 | | | | | | | | |
| 3 | 49 1/4 | | 96.9 | 15 3/4 | .49 1/2 | | 92.8 | 15 | .50 | | 100 | 16 | .49 1/2 | | 98.2 | 15 3/4 | .49.5 | | | 15 1/2 | .49 1/2 | | | 16 |
| 4 | 49 1/4 | | 98.4 | 15 3/4 | .49 1/2 | | 93.7 | 15 | .50 | | 101 | 16 1/4 | .49 1/2 | | 100 | 16 | .49 1/2 | | | 16 | .49 | | | 16 |
| 5 | .51 | | 100.4 | 16 | .51 | | 106 | 16 3/4 | .51 1/4 | | 101 | 16 1/4 | .50 3/4 | | 98.4 | 15 3/4 | .50 3/4 | | | 15 1/4 | .50 1/2 | | | 15 1/2 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 15.85 | | | | 15.8 | | | | 16.3 | | | | 15.65 | | | | 15.75 | | | | 15.7 |
| % | | | | 99.1 | | | | 98.8 | | | | 101.4 | | | | 100.3 | | | | 98 | | | | 98.7 |

ORDER No. 44 Bryant & Marsh




Spiral coated

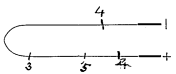
At Candles. Test Started 10:30 p.m. 1.13.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 5.15 p.m. 1.21.96 | 101 – | 2 | | 107 | .46½ |
| 2 | | | 8 a.m. 1.20.96 | 764.5 | 1 | | 107 | .45 |
| 3 | | | 10.40 a.m. 2.14.96 | 404.40 | 3 | | 107 | .45½ |
| 4 | | | 11.55 p.m. 3.13.96 | 713.10 | 5 | | 107 | .45 |
| 5 | | | 9 a.m. 3.12.96 | 685.15 | 4 | | 106 | .45½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 396.10 | | | 106.8 | .45½ |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 23.34 |
| At Candles. | |

Put away in box

ORDER No. 45 Edison




At 38¼ Candles. Test Started 11 p.m. 1.13.96 At 16 Candles.

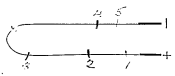
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | Too high | | | | | | 98 | .55½ |
| 2 | 110½ | .70½ | 9.05 a.m. 1.16.96 | 33.05 | 4 | | 95¾ | .58½ |
| 3 | 110 | .69 | 2 p.m. 1.15.96 | 21.00 | 2 | | 95 | .56½ |
| 4 | 108 | .70 | 8.25 p.m. 1.15.96 | 27.25 | 3 | | 93 | .57½ |
| 5 | 109 | .70½ | 8 a.m. 1.14.96 | 2.00 | 1 | | 94 | .55 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.4 | .70 | | 20.52 | | | 95.2 | .5673 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 21.32 |
| At 38¼ Candles. | |

Put away in box

| #92 | 9:30 a.m. 1-21-96 | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wgt. | 15.15 | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .80 | | | 30 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | .77 | | | 27½ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 28¾ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 67.4 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 46 Edison # 43 I



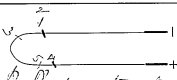

At $37\frac{3}{4}$ Candles. Test Started 10^10 a.m. 1.15.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lasting time (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106 | .72 | 7 p.m. 1.22.96 | 82 | 4 | | $91\frac{1}{2}$ | .59 |
| 2 | 107 | $.71\frac{1}{2}$ | 4 p.m. 1.18.96 | 47 m | 3 | | 93 | .59 |
| 3 | $107\frac{1}{4}$ | $.71\frac{3}{4}$ | 7.40 p.m. 1.17.96 | 40.30 | 2 | | $92\frac{1}{2}$ | .58 |
| 4 | 106 | .71 | 4.45 p.m. 1.17.96 | [illegible] | 1 | | 92 | .58 |
| 5 | $104\frac{1}{2}$ | $.72\frac{1}{2}$ | 9.20 a.m. 1.23.96 | 37 | 5 | | 91 | .59 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.15 | .7175 | | 58.53 | | | 92 | .586 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 221 |
| At $37\frac{3}{4}$ Candles. | 370 |

Put away in book

ORDER No. 47 Edison # 92




P. Cook untreated

At $42\frac{1}{3}$ Candles. Test Started 10.15 p.m. 1.20.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lasting time (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 98 | $.89\frac{1}{4}$ | 8.10 p.m. 1.21.96 | 13.55 | 1 | | $83\frac{3}{4}$ | $.71\frac{3}{4}$ |
| 2 | 100 | $.56\frac{3}{4}$ | 1.55 p.m. 1.22.96 | 23.40 | 2 | | 86 | .70 |
| 3 | 98 | $.54\frac{1}{4}$ | 8.10 p.m. 1.21.96 | 13.55 | 1 | | $83\frac{3}{4}$ | $.67\frac{3}{4}$ |
| 4 | $98\frac{1}{2}$ | .56 | 8.10 p.m. 1.21.96 | 13.55 | 1 | | 84 | $.65\frac{1}{4}$ |
| 5 | $100\frac{1}{2}$ | .52 | 6.15 p.m. 1.22.96 | 28 | 3 | | $85\frac{3}{4}$ | $.65\frac{3}{4}$ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99 | .556 | | 18.41 | | | 84.7 | .687 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 205 |
| At $42\frac{1}{3}$ Candles. | 372 |

Put away in book

| #93 1000 c. | 9.30 p.m. 1.21.96 | | | | 9.15 p.m. 1.22.96 | | | | 9 p.m. 1.23.96 | | | | 9 p.m. 1.24.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15.15 | | | | | | | | 46.45 | | | | 62.40 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .85 | | | 30½ | .91½ | | 52.5 | 22¾ | .79½ | | | 19 | | | | | | | | | | | | |
| 2 | .83 | | | 27¼ | .79½ | | -17.9 | 20¾ | .77¾ | | | 18¼ | .76 | | | 16 | | | | | | | | |
| 3 | .86½ | | | 28 | .83 | | 58.8 | 22 | .80 | | | 19 | | | | | | | | | | | | |
| 4 | .83 | | | 26 | | | | | | | | | | | | | | | | | | | | |
| 5 | .84 | | | 26 | .81 | | -49 | 21¾ | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 27.5 | | | | 21.68 | | | | 18¾ | | | | 16 | | | | | | | | |
| % | | | | 63.6 | | | | 50 | | | | -13.3 | | | | 36.4 | | | | | | | | |

| #95 1000 c. | 1.35 p.m. 1.29.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 113.20 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .82¾ | | | 18 | | | | | | | | | | | | | | | | | | | | |
| 2 | .82¼ | | | 17¾ | | | | | | | | | | | | | | | | | | | | |
| 3 | .81 | | | 18 | | | | | | | | | | | | | | | | | | | | |
| 4 | .80 | | | 16¾ | | | | | | | | | | | | | | | | | | | | |
| 5 | .79½ | | | 17 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17.5 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 46.5 | | | | | | | | | | | | | | | | | | | | |

| #95 | 9.50 p.m. 1.21.96 | | | | 10 p.m. 1.22.96 | | | | 9.20 P.M. 1.23.96 | | | | 10 p.m. 1.24.96 | | | | 11.05 a.m. 1.27.96 | | | | 1.45 p.m. 1.28.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ELEV. | 15.35 | | | | 31.45 | | | | 47.05 | | | | 62.45 | | | | 79.50 | | | | 97.30 | | | |
| No. | A | R | V | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 87 | | | 30 | .85 | | 66.5 | 25 3/4 | .84 1/4 | | 60.5 | 22 3/4 | .83 3/4 | | | 20 3/4 | .82 | | | 18 | .82 1/2 | | | 17 |
| 2 | 86 | | | 28 1/2 | .85 | | 66.5 | 25 | .84 | | 59.2 | 22 1/4 | .83 1/4 | | | 20 | .82 | | | 18 | .82 1/2 | | | 17 3/4 |
| 3 | 85 | | | 29 | .83 1/2 | | 65.8 | 24 3/4 | .82 3/4 | | 58.5 | 22 | .82 1/2 | | | 21 | .81 1/2 | | | 19 | .81 1/4 | | | 18 1/2 |
| 4 | 85 | | | 30 | .83 | | 65.1 | 24 1/2 | .82 | | 58.5 | 22 | .81 3/4 | | | 20 | .80 | | | 17 1/2 | .80 1/2 | | | 17 1/2 |
| 5 | 83 1/2 | | | 29 1/4 | .83 | | 64.8 | 25 1/2 | .81 3/4 | | 58.5 | 22 | .80 3/4 | | | 20 1/2 | .78 1/2 | | | 17 1/4 | .79 1/2 | | | 17 3/4 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 29.45 | | | | 25.1 | | | | 22.2 | | | | 20.45 | | | | 17.95 | | | | 17.7 |
| % | | | | 74.3 | | | | 66.6 | | | | 59 | | | | 54.3 | | | | 47.7 | | | | 47 |

ORDER No. 48 Edison #93

At 43 1/3 Candles. Test Started 10.15 P.m. 1.20.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 100 | .85 1/2 | 10.40 P.m. 1.23.96 | 28.2 | 1 | | 85 | .70 1/2 |
| 2 | 99 | 86 3/4 | 7.[illegible] | 66.40 | 3 | | 84 1/4 | .70 |
| 3 | 96 1/2 | .91 | 11.05 P.m. 1.23.96 | [illegible] | 4 | | 82 | .72 1/2 |
| 4 | 99 | .87 | 2.20 P.m. 1.22.96 | 24.05 | 1 | | 84 | .69 1/2 |
| 5 | 88 1/2 | .89 | 10 a.m. 1.23.96 | [illegible] | 2 | | 83 | .71 1/2 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 98.6 | .884 | | 44.57 | | | 83.9 | .705 |



P. Lamp in Use

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 202 |
| At 43 1/3 Candles. | .871 |

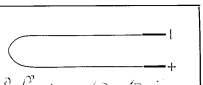
Put away in box

ORDER No. 49 Edison #95

At 37 2/3 Candles. Test Started 10.15 P.m. 1.20.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 85 | .89 | | | | | .73 | .73 |
| 2 | 85 | .88 1/2 | | | | | .74 | .73 |
| 3 | 85 | .87 1/4 | | | | | .74 1/2 | .72 3/4 |
| 4 | 86 | .87 | | | | | .74 3/4 | .72 |
| 5 | 87 | .86 | | | | | .76 | .71 1/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 85.6 | .875 | | | | | 74.5 | .724 |

Lamp is taken down 1.31.96 9.10 P.m. 157.55 life



P. Lamp in Use

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 221 |
| At 37 2/3 Candles. | .874 |

| #96 | 9.50 p.m. 1.21.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 15.35 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .85½ | | 57.3 | 22½ | | | | | | | | | | | | | | | | | | | | |
| 4 | .79½ | | 46.4 | 50½ | | | | | | | | | | | | | | | | | | | | |
| 5 | .78 | | 44.9 | 77½ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.6 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 47.3 | | | | | | | | | | | | | | | | | | | | |

| #97 | 10.05 p.m. 1.21.96 | | | | 8.50 p.m. 1.22.96 | | | | 9 p.m. 1.23.96 | | | | 9.45 p.m. 1.24.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 15.50 | | | | 30.35 | | | | 46.45 | | | | 63.30 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .91 | | 49.3 | 26 | | | | | | | | | | | | | | | | | | | | |
| 3 | .97¾ | | 55.7 | 29½ | .95 | | | 24½ | .93½ | | | 20½ | .91½ | | | 18 | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | .92 | | 52.1 | 28 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 27.5 | | | | 24½ | | | | 20½ | | | | 18 | | | | | | | | |
| % | | | | 52.7 | | | | 46 | | | | 38.9 | | | | 34.1 | | | | | | | | |

ORDER No. 50 Edison #96

At 39 Candles. Test Started 10.15 a.m. 1.20.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 84 1/2 | .88 3/4 | 10 a.m. 1.21.96 | [illegible] | 1 | | 73 | .73 1/2 |
| 2 | 86 | .93 | 5.50 p.m. 1.21.96 | 11.35 | 2 | | 74 1/2 | .76 |
| 3 | 86 3/4 | .92 1/2 | 10.30 p.m. 1.21.96 | [illegible] | 3 | | 75 | .75 3/4 |
| 4 | 85 | .92 | 8.05 a.m. 1.22.96 | [illegible] | 5 | | 73 1/2 | .75 |
| 5 | 86 3/4 | .95 | 7.25 a.m. 1.22.96 | 8 | 4 | | 75 | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 85.8 | .91 | | 13.05 | | | 74.2 | .88.3 |




P. Cooper Hewitt

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 216 |
| At 39 Candles. | 372 |

Put away in box

ORDER No. 51 Edison #97

At 52 3/4 Candles. Test Started 10.15 a.m. 1.20.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | .97 | 10 a.m. 1.21.96 | 15.45 | 1 | | 80 3/4 | .74 1/2 |
| 2 | 107 | .100 | 8.35 p.m. 1.22.96 | 36.20 | 3 | | 88 | .76 |
| 3 | 103 1/2 | 104 1/4 | 5.25 p.m. 1.23.96 | 75.10 | 4 | | 84 1/2 | 75 1/2 |
| 4 | Too high | | | | | | 91 | 74 3/4 |
| 5 | 107 | 100 | 5.20 p.m. 1.22.96 | 27.05 | 2 | | 88 | .75 1/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.6 | 100.3 | | 39.20 | | | 88.3 | 76 |




P. Cooper Hewitt

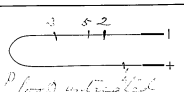
| | Candles per H. P. |
|---|---|
| At 16 Candles. | 178 |
| At 52 3/4 Candles. | 367 |

Put away in box

| #98 / 1000 L. | 10.05 p.m. 1.21.96 | | | | 9.15 p.m. 1.22.96 | | | | 9 p.m. 1.23.96 | | | | 9 p.m. 1.24.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 15.50 | | | | 31 | | | | 46.45 | | | | 62.45 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .95 | | 40.7 | 29¾ | .92¾ | | 47.5 | 23½ | .88¾ | | | 18½ | .88 | | | 17½ | | | | | | | | |
| 5 | .95½ | | 41.30 | | .92½ | | 43 | 24 | .89½ | | | 20½ | .88¼ | | | 19 | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 29.57 | | | | 23¾ | | | | 19.38 | | | | 18.25 | | | | | | | | |
| % | | | | 66.4 | | | | 48.4 | | | | 39.5 | | | | 37.2 | | | | | | | | |

| #100 | 10.20 p.m. 1.21.96 | | | | 9.15 p.m. 1.22.96 | | | | 9 p.m. 1.23.96 | | | | 9 p.m. 1.24.96 | | | | 11.05 a.m. 1.27.96 | | | | 1.45 p.m. 1.28.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16.05 | | | | 31 | | | | 46.45 | | | | 62.45 | | | | 79.50 | | | | 97.00 | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .42¾ | | 73 | 18¼ | .41 | | 59 | 14¾ | | | | | | | | | | | | | | | | |
| 3 | .44½ | | 70 | 17½ | | | | | | | | | | | | | | | | | | | | |
| 4 | .42 | | 72 | 18 | .40¾ | | 60 | 15 | .40 | | 56 | 14 | .39¾ | | | 13 | .48¾ | | | 11¾ | .38½ | | | 11½ |
| 5 | .43¾ | | 74 | 18½ | .41 | | 56 | 14 | .40 | | | 13 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.00 | | | | 14.58 | | | | 13½ | | | | 13 | | | | 11¾ | | | | 11½ |
| % | | | | 72.2 | | | | 58.3 | | | | 54 | | | | 52 | | | | 47 | | | | 46 |

ORDER NO. 52 Edison #98




P. Loop unmounted

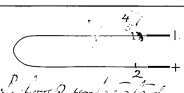
At 49 Candles. Test Started 10.18 p.m. 1.20.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 99 | .98 | 7.10 p.m. 1.21.96 | 12.55 | 1 | | 78 | .82¾ |
| 2 | 98 | 1.00½ | 8.10 p.m. 1.21.96 | 13.55 | 3 | | 75½ | .81½ |
| 3 | 98 | 1.01 | 6.30 p.m. 1.21.96 | 12.15 | 2 | | 79 | .82 |
| 4 | 97 | .99½ | 11.15 a.m. 1.25.96 | [illegible] | 4 | | 75 | .81 |
| 5 | 97 | .99¾ | 4.45 p.m. 1.28.96 | 74.50 | 5 | | 77½ | .81 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.8 | .99.6 | | 36.43 | | | 78.2 | .817 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 187 |
| At 49 Candles. | 579 |

Put away in box

ORDER NO. 53 Edison 100




P. Loop unmounted

At 25 Candles. Test Started 10.15 p.m. 1.20.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .46 | 7.10 p.m. 1.21.96 | 12.55 | 1 | | 99¼ | .41½ |
| 2 | 111 | .46 | 8 p.m. 1.23.96 | 45.45 | 3 | | 103 | .41 |
| 3 | 107¼ | .48 | 10.15 a.m. 1.22.96 | 21. | 2 | | 98¾ | .43 |
| 4 | 107 | .44½ | 8.10 a.m. 1.28.96 | 108.55 | 5 | | 99¼ | .40¾ |
| 5 | 105 | .46¼ | 11.10 a.m. 1.24.96 | 83.55 | 4 | | 100 | .41¾ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.25 | .4615 | | 30.30 | | | 100.2 | .415 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At 25 Candles. | 372 |

Put away in box

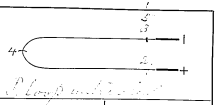
| #101 | 10:20 p.m. 1-21-96 | | | | 8:50 p.m. 1-22-96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16.05 | | | | 30.35 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 42 1/4 | | | 16 1/4 | 41 | | | 14 | | | | | | | | | | | | | | | | |
| 2 | 42 3/4 | | | 17 1/4 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.87 | | | | 14 | | | | | | | | | | | | | | | | |
| % | | | | 70.3 | | | | 58.3 | | | | | | | | | | | | | | | | |

| #102 | 10:20 p.m. 1-21-96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 16.05 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 91 3/4 | | 67.3 | 26 1/4 | | | | | | | | | | | | | | | | | | | | |
| 4 | 87 1/4 | | 66.6 | 26 | | | | | | | | | | | | | | | | | | | | |
| 5 | 92 1/2 | | 65.4 | 25 1/2 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 25.5 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 64.4 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 54 Edison # 101

At 24 Candles. Test Started 10.15 pm. 1.20.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 102 | .45½ | 8.25 am. 1.23.96 | 35.10 | 5 | | 96 | .42 |
| 2 | 102½ | .45½ | 5 pm. 1.22.96 | 21.45 | 4 | | 96½ | .42 |
| 3 | 103½ | .46 | 10.55 pm. 1.20.96 | .35 | 1 | | 96½ | .42 |
| 4 | 104½ | .46 | 11.45 am 1.21.96 | [illegible] | 2 | | 97½ | .42 |
| 5 | 105 | .45 | 2.25 pm. 1.21.96 | 5[illegible] | 3 | | [illegible] | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 103.5 | 45.65 | | 1[illegible] | | | 96.9 | .415 |




Sloan and [illegible]

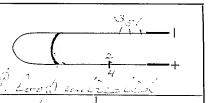
| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.94 |
| At 24 Candles. | 3.75 |

Put away in box ~

ORDER No. 55 Edison # 102

At 39 Candles. Test Started 10.15 pm. 1.20.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 80½ | .97 | 9.35 pm. 1.21.96 | 18.20 | 2 | | 70 | .80½ |
| 2 | 80 | .94 | 8.50 am. 1.21.96 | 3.35 | 1 | | 69¼ | .77½ |
| 3 | 80 | .96 | 11.55 am. 1.22.96 | 22.40 | 3 | | 69¼ | .79 |
| 4 | 82½ | .92½ | 1.25 pm. 1.22.96 | 23.05 | 4 | | 71¼ | .76 |
| 5 | 81 | .98 | 3.35 pm. 1.22.96 | 25.20 | 5 | | 70½ | .81 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 80.8 | .95.45 | | 18— | | | 701 | .788 |




Sloan and [illegible]

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 2.16 |
| At 39 Candles. | 3.77 |

Put away in box

| #105 | 8.50 p.m. 1.22.96 | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L | 16.20 | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 47¾ | | | 15¾ | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 15⅞ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 55.6 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 56 Edison #103

At $25\frac{3}{4}$ Candles. Test Started 8.30 p.m. 1.21.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 111 | .47 | 3.40 p.m. 1.22.96 | [illegible] | 4 | $102\frac{1}{2}$ | .42 |
| 2 | 107 | $.48\frac{3}{4}$ | 8.15 p.m. 1.22.96 | 15.05 | 5 | 99 | $.43\frac{3}{4}$ |
| 3 | $107\frac{1}{4}$ | .46 | 9.35 p.m. 1.21.96 | [illegible] | 1 | $99\frac{1}{2}$ | $.46\frac{1}{2}$ |
| 4 | $102\frac{1}{2}$ | $.51\frac{1}{4}$ | 9.40 p.m. 1.22.96 | [illegible] | 3 | $94\frac{1}{2}$ | .46 |
| 5 | 108 | $.46\frac{3}{4}$ | 10.50 p.m. 1.21.96 | [illegible] | 2 | $99\frac{3}{4}$ | [illegible] |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 107.15 | .4795 | | 7.15 | | 99.05 | .4365 |

Candles per H. P.

At 16 Candles. 286

At $25\frac{3}{4}$ Candles. 372

Put away in box

ORDER No. 57 Edison #105

At 24 Candles. Test Started 8.30 p.m. 1.21.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 95 | $.51\frac{1}{4}$ | 5.5 p.m. 1.23.96 | [illegible] | 5 | | 89 | $.46\frac{3}{4}$ |
| 2 | 102 | .47 | 3.05 p.m. 1.22.96 | 10.35 | 2 | | $95\frac{1}{2}$ | .43 |
| 3 | 98 | $.49\frac{1}{2}$ | 6.20 p.m. 1.22.96 | 13.50 | 3 | | $91\frac{1}{4}$ | .45 |
| 4 | $97\frac{1}{2}$ | $.49\frac{1}{2}$ | 2.35 p.m. 1.22.96 | 10.05 | 1 | | $91\frac{1}{2}$ | $.45\frac{1}{4}$ |
| 5 | 95 | $47\frac{1}{2}$ | 8 p.m. 1.22.96 | 15.30 | 4 | | 89 | $.43\frac{1}{4}$ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.7 | .489 | | 15.43 | | | $91\frac{1}{4}$ | .447 |

Candles per H. P.

At 16 Candles. 293

At 24 Candles. 374

Put away in box

# 106 10.0 p.m. 1-22-96
17.30

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .42 | | | 17 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 73% | | | | | | | | | | | | | | | | | | | | |

# 110 8.50 p.m. 1.22.96
16.20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .61 | | 68.5 | 21 1/4 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .60 3/4 | | 65.3 | 20 3/4 | | | | | | | | | | | | | | | | | | | | |
| 5 | .58 1/2 | | 51.5 | 17 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.83 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 62.4 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 58 Edison # 106

At 23 Candles. Test Started 8.30 P.m. 1.21.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 101 | .45 | 2.35 P.m. 1.23.96 | 26.05 | 3 | | 95 | .45½ |
| 2 | 101½ | .44 | 9.20 P.m. 1.21.96 | 1.50 | 1 | | 95½ | .43½ |
| 3 | 113 | .41 | 8.40 P.m. 1.21.96 | [illegible] | 2 | | 107 | .35 |
| 4 | 102 | .44½ | 9.20 a.m. 1.22.96 | 5.50 | 3 | | 95½ | [illegible] |
| 5 | 103½ | .43 | 11.10 a.m. 1.22.96 | [illegible] | 4 | | [illegible] | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 104.2 | .43.9 | | 11.31 | | | 98.1 | .40.35 |

Loop unbroken

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 301 |
| At 23 Candles. | 335 |

Put away in box

ORDER No. 59 Edison # 116

At 31¾ Candles. Test Started 8.30 P.m. 1.21.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 101½ | .63¾ | 9.25 a.m. 1.22.96 | 5.55 | 1 | | 90¾ | .54 |
| 2 | 96½ | .65 | 8.15 P.m. 1.23.96 | 31.15 | 5 | | 65½ | .55½ |
| 3 | 100 | .63 | 7.45 P.m. 1.23.96 | 18.15 | 2 | | 89¾ | .54 |
| 4 | 97 | .65 | 6.20 P.m. 1.23.96 | 29.15 | 4 | | 57 | .56 |
| 5 | 103½ | .61½ | 11.35 a.m. 1.23.96 | 24.05 | 3 | | 92 | .53 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99.7 | .635 | | 21.22 | | | 88.8 | .5445 |

Loop unbroken

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 246 |
| At 31¾ Candles. | 37.1 |

Put away in box

Put away in box

| # 107 | 9.20p.m. 1.23.96 | | | | 9.45p.m. 1.24.96 | | | | 11.45a.m. 1.27.96 | | | | 2.15p.m. 1.28.96 | | | | 1.35p.m. 1.29.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 23.30 | | | | 39.55 | | | | 56.55 | | | | 74.25 | | | | 89.45 | | | | | | | |
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .98½ | | 62 | 25½ | .95½ | | 51.8 | 21½ | .92½ | | | 18½ | .95 | | | 19½ | .94 | | | 18 | | | | |
| 2 | .98½ | | 57.8 | 24 | .96½ | | 50.6 | 21 | .94 | | | 17½ | .94 | | | 18 | .93½ | | | 17⅔ | | | | |
| 3 | .98½ | | 60.1 | 25 | .97 | | 51.8 | 21½ | .94 | | | 18½ | .94½ | | | 18½ | .93½ | | | 17 | | | | |
| 4 | 1.00 | | 54.5 | 22½ | .99 | | 49.4 | 20½ | .95½ | | | 16½ | .96½ | | | 16½ | .95½ | | | 16 | | | | |
| 5 | 1.00 | | 67.5 | 25 | 1.00 | | 55.4 | 23 | 1.04 | | | 19 | 1.05½ | | | 20½ | 1.05 | | | 19½ | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 25.1 | | | | 21½ | | | | 17.95 | | | | 18.6 | | | | 17.55 | | | | |
| % | | | | 60.5 | | | | 51.8 | | | | 43.2 | | | | 44.8 | | | | 42.3 | | | | |

ORDER No. 60 Edison #104

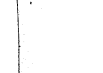
P loop untreated

| At 25 Candles. | | | Test Started 9.15 a.m. 1.22.96 | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
| 1 | 89 | .55 | 8.20 a.m. 1.22.96 | [illegible] | 4 | | 83 | .50 |
| 2 | 89 | .54 | 6.25 p.m. 1.22.96 | [illegible] | 2 | | 83 1/4 | .49 |
| 3 | 89 | .56 | 3.45 a.m. 1.22.96 | 5.30 | 1 | | 83 | .50 1/2 |
| 4 | 91 1/2 | .55 | 7.35 p.m. 1.22.96 | [illegible] | 3 | | 85 | .50 |
| 5 | 88 1/2 | .57 | 9.20 p.m. 1.22.96 | [illegible] | 5 | | 82 1/2 | .51 1/2 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 84.5 | .554 | | 8.50 | | | 83.35 | .502 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 285 |
| At 25 Candles. | 375 |

put away in book

ORDER No. 61 Edison #107




P loop untreated

| At 41 1/2 Candles. | | | Test Started 1.50 p.m. 1.22.96 | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
| 1 | 80 | 102 1/2 | 10.20 a.m. 2.8.96 | 221.35 | 4 | | 68 1/2 | .83 |
| 2 | 79 | 102 1/4 | 8.40 a.m. 2.3.96 | 142.40 | 2 | | 67 3/4 | .83 1/2 |
| 3 | 80 | 102 3/4 | 9.25 a.m. 1.30.96 | 102.35 | 1 | | 68 1/2 | .83 3/4 |
| 4 | 76 3/4 | 105 | 8.50 p.m. 2.6.96 | 200.20 | 3 | | 65 1/2 | .84 3/4 |
| 5 | 77 3/4 | 111 | 9.20 a.m. 2.11.96 | 248.35 | 5 | | 66 1/2 | .90 1/2 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 78.7 | 104.7 | | 182.21 | | | 67.35 | .857 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 208 |
| At 41 1/2 Candles. | 375 |

put away in book

| 175 | 8.25 p.m. 2.27.96 | | | | 3.15 p.m. 5.18.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 440 | | | | 1398.50 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .44 | | | 9½ | .40½ | | | 7 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .44 | | | 8¼ | .40½ | | | 6¾ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 9.12 | | | | 6.88 | | | | | | | | | | | | | | | | |
| % | | | | 29.6 | | | | 22.4 | | | | | | | | | | | | | | | | |

| # 111 | 3 p.m. 1.24.96 | | | | 11.05 a.m. 2.27.96 | | | | 1.45 p.m. 1.28.96 | | | | 11.40 p.m. 1.29.96 | | | | 9 a.m. 2.28.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 19.30 | | | | 42.35 | | | | 60.15 | | | | 75.10 | | | | 434.05 | | | | | | | |
| No. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .50¾ | | 61.5 | 15½ | .48¾ | | | 12¼ | .48½ | | | 11½ | .48 | | | 11¼ | .42 | | | 6¾ | | | | |
| 3 | .48 | | 60.4 | 14½ | .46 | | | 10 | | | | | | | | | | | | | | | | |
| 4 | .49 | | 62.5 | 15 | .46¾ | | | 10¾ | .46½ | | | 10½ | .46 | | | 10 | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14.91 | | | | 11 | | | | 11 | | | | 10.625 | | | | 6.75 | | | | |
| % | | | | 62.2 | | | | 45.8 | | | | 45.8 | | | | 44.3 | | | | 28.1 | | | | |

| Time / Sec. | 9.20 P.m. 1.23.96 | | | | 9 p.m. 1.24.96 | | | | 10.05 a.m. 1.27.96 | | | | 11.15 a.m. 1.28.96 | | | | 10.40 a.m. 1.29.96 | | | | 1.45 p.m. 2.5.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 21.20 | | | | 27. | | | | 54.05 | | | | 70.15 | | | | 85.40 | | | | 176.20 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | 63.4 | 19½ | .50 | | .66 | 17½ | .48½ | | | | .15 | .48½ | | | 14¼ | .47½ | | | 12½ | 46¾ | | 11¼ |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .58¼ | | 86.3 | 26½ | .54 | | 79.5 | 24½ | .52¼ | | | | .20 | .51 | | | 19¼ | | | | | | | |
| 4 | .51½ | | 55.3 | 17 | .50 | | .47 | 14¾ | .48½ | | | | 12½ | .48½ | | | 12 | .48 | | | 12 | 47 | | 10 |
| 5 | .58 | | 82.1 | 25¼ | .56¼ | | .75 | 24 | .55 | | | | 21½ | .54 | | | 20 | .53¼ | | | 19¾ | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Mean | | | 22.06 | | | | 20.19 | | | | | 17¼ | | | | 16.37 | | | | 14.75 | | | | 10.62 |
| % | | | 77.7 | | | | 65.6 | | | | | 56.1 | | | | 53.2 | | | | 48 | | | | 34.5 |

ORDER NO. 62 I.F. Co

Bamboo




P. loop untreated

At 30¾ Candles. Test Started 4 pm. 1.22.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107¾ | .55 | Left on 1.30 pm. 10.2.96 | 2324.55 | | | 96 | .48 |
| 2 | 108 | .55 | 9.15 am. 1.23.96 | 16.55 | | | 95¾ | .48½ |
| 3 | 108 | .55¾ | 9.25 am. 1.29.96 | 84.25 | 2 | | 96 1/16 | .44½ |
| 4 | 110 | .55½ | 6.50 pm. 6.5.96 | 1607.05 | 4 | | 97¼ | .47½ |
| 5 | 108¼ | .55 | 4.40 pm. 2.4.96 | 163.30 | 3 | | 96½ | .52 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 1084 | .56 | | 538.07 | | | 96.4 | .4915 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 351 |
| At 30¾ Candles. | 378 |

Page 2

ORDER NO. 63 Edison #11




P. loop untreated

At 24 Candles. Test Started 10 30 am 1.23.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 96 | .48 | 4 pm. 1.23.96 | ~~5.15~~ | 1 | | 89½ | .44 |
| 2 | 88 | .54½ | 11.30 am. 2.29.96 | 451.20 | 5 | | 82 | .50 |
| 3 | 90½ | .53 | 3.35 pm. 1.27.96 | 46.05 | 3 | | 85 | .45½ |
| 4 | 90 | .53 | 11.25 am. 2.19.96 | 333.30 | 4 | | 84¾ | .49 |
| 5 | 92 | .51 | 4.40 pm. 1.23.96 | 5.10 | 2 | | 86¾ | .46½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 91.3 | .5785 | | 168.07 | | | 85½ | .476 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 223 |
| At 24 Candles. | 377 |

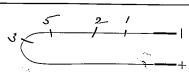
Put away in book

| #113 1000 L. | 1.40 p.m. 1.24.96 | | | | 10.05 a.m. 1.27.96 | | | | 11.15 a.m. 1.28.96 | | | | 11.40 a.m. 1.29.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18.10 | | | | 41.35 | | | | 58.45 | | | | 75.10 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .57 | | 61.8 | 19 | .55½ | | | 13 | .54 | | | 11½ | .53 | | | 10½ | | | | | | | | |
| 2 | .57 | | 58.9 | 17½ | .56½ | | | 15½ | | | | | | | | | | | | | | | | |
| 3 | .56 | | 58.5 | 18 | .56½ | | | 14½ | | | | 13 | | | | | | | | | | | | |
| 4 | .57½ | | 50.4 | 15½ | .56½ | | | 16 | .54 | | | 13½ | .53½ | | | 13 | | | | | | | | |
| 5 | .55¾ | | 44.6 | 14 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.8 | | | | 14.875 | | | | 12.5 | | | | 11.75 | | | | | | | | |
| % | | | | 50.6 | | | | 48.4 | | | | 40.6 | | | | 38.2 | | | | | | | | |

| LP² 1000 L. | 3.15 p.m. 6.18.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1287.25 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .45½ | | | 8½ | | | | | | | | | | | | | | | | | | | | |
| 2 | .45½ | | | 9½ | | | | | | | | | | | | | | | | | | | | |
| 3 | .50½ | | | 10 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 9.33 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 58.3 | | | | | | | | | | | | | | | | | | | | |

| Date | 1.40pm. 1.24.96 | | | | 10.50a.m. 1.27.96 | | | | 11.15a.m. 1.28.96 | | | | 10.40a.m. 1.29.96 | | | | 1.45p.m. 2.5.96 | | | | 8.25pm 2.27.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Time | 18.10 | | | | 41.35 | | | | 58.45 | | | | 74.10 | | | | 164.50 | | | | 428.30 | | | |
| No. | A | R | %M | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .56 | | | 16 2/4 | .57 | | | 16 | .57 | | | 16 2/4 | .57 | | | 15 2/4 | .56 1/4 | | | 15 2/4 | .54 | | | 13 2/4 |
| 2 | .55 2/4 | | | 16 2/4 | .55 2/4 | | | 16 | .56 | | | 16 | .56 | | | 16 2/4 | .55 3/4 | | | 16 | .52 | | | 13 2/4 |
| 3 | .60 | | | 16 | .49 | | | 16 3/4 | .60 2/4 | | | 15 2/4 | .60 2/4 | | | 15 2/4 | .60 | | | 15 2/4 | .58 | | | 14 2/4 |
| 4 | .56 2/4 | | | 15 2/4 | .56 2/4 | | | 18 | .56 2/4 | | | 15 2/4 | .56 2/4 | | | 15 2/4 | .54 3/4 | | | 13 2/4 | | | | |
| 5 | .57 2/4 | | | 17 2/4 | .57 2/4 | | | 16 3/4 | .57 3/4 | | | 16 2/4 | .57 2/4 | | | 16 2/4 | .57 | | | 16 | .54 | | | 13 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.35 | | | | 16.7 | | | | 16. | | | | 15.9 | | | | 15.3 | | | | 13.94 |
| % | | | | 152 | | | | 101 | | | | 100 | | | | 99.4 | | | | 95.6 | | | | 84 |

ORDER No. 64 Edison #113




At 30 3/4 Candles. Test Started 10.30 a.m. 1.23.96 At 16 Candles.

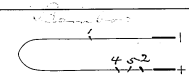
P. Loop untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 95 | .65 | 10.45 p.m. 1.30.96 | 101.45 | 4 | | 85 | .55 1/4 |
| 2 | 94 1/4 | .64 3/4 | 6.45 p.m. 1.27.96 | 49.15 | 3 | | 85 | .56 1/2 |
| 3 | 94 1/4 | .66 | 2.40 p.m. 1.27.96 | 25.10 | 2 | | 84 1/4 | .56 1/2 |
| 4 | 94 | .64 1/4 | 3.35 p.m. 2.1.96 | 126.05 | 5 | | 84 1/4 | .55 |
| 5 | 96 | .64 1/2 | 8.40 p.m. 1.24.96 | 2.10 | 1 | | [illegible] | [illegible] |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 94 3/4 | .649 | | 69.29 | | | 84.95 | .555 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 251 |
| At 30 3/4 Candles. | 372 |

Lost-away in book

ORDER No. 65 L.F. A




At Candles. Test Started 10.30 a.m. 1.23.96 At 16 Candles.

P. Loop treated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 8 a.m. 10.22.96 | 2424 | 4 | | 98 1/4 | .56 3/4 |
| 2 | | | 9.30 p.m. 7.1.96 | 1788.50 | 3 | | 100 1/4 | .55 |
| 3 | Fallen down | | 9.30 p.m. 11.13.96 | 2639 | | | 97 1/4 | .59 |
| 4 | | | 9.25 a.m. 2.27.96 | 420.30 | 1 | | 96 | .56 1/4 |
| 5 | | | 10.50 p.m. 4.13.96 | 920.50 | 2 | | 100 1/4 | .56 3/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 1638.38 | | | 98.4 | .5685 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 212 |
| At Candles. | |

| ITB 400 L. | 3.15 pm 5.18.96 1287.25 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .35 | | | 6½ | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .40½ | | | 7½ | | | | | | | | | | | | | | | | | | | | |
| 5 | .35½ | | | 6½ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 6.75 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 42.2 | | | | | | | | | | | | | | | | | | | | |

| ITB 400 L. | 8 a.m. 1.24.96 10.05 | | | | 9 pm 1.24.96 21.05 | | | | 3 pm. 1.25.96 31.05 | | | | 4 pm 1.27.96 41.05 | | | | 9 am. 1.28.96 51.05 | | | | 10.40 am. 1.29.96 68.45 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | % | C.P. | A | R | % | C.P. | A | R | % | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .55 | | 98.3 | 30 | .54 | | 85.5 | 27 | .53 | | 80.3 | 24½ | | | | | | | | | | | | |
| 2 | .59 | | 94.2 | 28¾ | .58½ | | 85.2 | 26 | .58 | | 78.7 | 24 | .57½ | | | 19¾ | .57 | | | 21¾ | .56½ | | | 21 |
| 3 | .54½ | | 97.5 | 29¾ | .53 | | 86.9 | 26½ | .52 | | 81.1 | 24¾ | .50½ | | | 21½ | .50 | | | 20½ | | | | |
| 4 | .54 | | 94.3 | 28¾ | .53 | | 87.7 | 26¾ | .52 | | 77.9 | 23¾ | .51½ | | | 22¾ | .51 | | | 21¾ | .48½ | | | 18 |
| 5 | .55 | | 92.1 | 29 | .54 | | 85.2 | 26 | .53 | | 77 | 23½ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 29¼ | | | | 26¾ | | | | 24.1 | | | | 21.16 | | | | 21.33 | | | | 19.5 |
| % | | | | 95.9 | | | | 86.7 | | | | 79 | | | | 69.9 | | | | 69.9 | | | | 63.9 |

| J.T.P. | 1.40 p.m. 1.24.96 | | | | 10.05 a.m. 1.27.96 | | | | 11.15 a.m. 1.28.96 | | | | 10.40 a.m. 1.29.96 | | | | 1.45 p.m. 2.5.96 | | | | 8.25 p.m. 2.27.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18.10 | | | | 41.35 | | | | 38.45 | | | | 74.10 | | | | 164.50 | | | | 428.30 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .44½ | | | 16 | .44 | | | 15 | .44¼ | | | 15¾ | .43¾ | | | 15 | .42¾ | | | 14 | .38 | | | 10½ |
| 2 | .47 | | | 17 | .43½ | | | 12¼ | .43 | | | 11¾ | .42¾ | | | 11¼ | — | | | — | | | | |
| 3 | .48¾ | | | 18¼ | .39½ | | | 14¾ | .48 | | | 15½ | .47½ | | | 15¾ | .44¾ | | | 12½ | .40 | | | 9¾ |
| 4 | .46½ | | | 15¼ | .47¾ | | | 15 | .48 | | | 14 | .47½ | | | 14 | .46 | | | 11½ | .43 | | | 9 |
| 5 | .47 | | | 17 | .46¾ | | | 16¼ | .46½ | | | 16 | .46¼ | | | 16½ | .44 | | | 13½ | .39 | | | 9¼ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 16.4 | | | | 14.65 | | | | 14.6 | | | | 14.5 | | | | 12.87 | | | | 9.7 |
| | | | | 1002 | | | | 91.5 | | | | 92.2 | | | | 90.6 | | | | 80.5 | | | | 60 |

1388.431 | 97.059.467

ORDER No. 66 L.F. P

Diagram

2 3 1 +

At Candles. Test Started 10.30 a.m. 1.23.96 At 16 Candles.

P. Loop unbroken

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | Fallen down 1.30 p.m. 10.2.96 | | 2234.05 | | | 95½ | .43½ |
| 2 | | 3.40 p.m. 1.30.96 | | 94.10 | 1 | | 99½ | .48 |
| 3 | | 7.50 p.m. 3.11.96 | | 562.25 | 2 | | 96½ | .47½ |
| 4 | | Fallen down 1.30 p.m. 10.2.96 | | 2234.05 | | | 97½ | .48½ |
| 5 | | 10 p.m. 7.3.96 | | 1818.50 | 3 | | 97½ | .46 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 1388.43 | | | 97.05 | .467 |

Candles per H. P.

At 16 Candles. 252

At Candles.

ORDER No. 67 L.F. I

Diagram

1 + 1

At 30½ Candles. Test Started 2.55 p.m. 1.23.96 At 16 Candles.

P. Nat. Bank unbroken

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .55 | 3.15 p.m. 1.27.96 | 41.20 | 2 | | 96¾ | .49 |
| 2 | 108¼ | .59 | 1.35 p.m. 1.31.96 | 102.44 | 5 | | 95½ | .52 |
| 3 | 110 | .54¾ | 10.10 p.m. 1.28.96 | 63.15 | 3 | | 96½ | .48 |
| 4 | 108¼ | .54½ | 11.10 p.m. 1.29.96 | 69.15 | 4 | | 95 | .48 |
| 5 | 109½ | .55 | 2.25 p.m. 1.27.96 | 40.[illegible] | 1 | | 96 | .45½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.2 | .5566 | | 63.25 | | | 95.9 | .491 |

Candles per H. P.

At 16 Candles. 253

At 30½ Candles. 375

2 3 & 4 put away in box
155 Edison

| #57 | 10.25 a.m. 2.5.96 | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ado. | 66.25 | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .64 | | | 21½ | | | | | | | | | | | | | | | | | | | | | |
| 2 | .63 | | | 16½ | | | | | | | | | | | | | | | | | | | | | |
| 3 | .62 | | | 17½ | | | | | | | | | | | | | | | | | | | | | |
| 4 | .59¾ | | | 16 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17¾ | | | | | | | | | | | | | | | | | | | | | |
| x | | | | 54.3 | | | | | | | | | | | | | | | | | | | | | |

| #59 | 10.25 a.m. 2.5.96 | | | | 8.25 p.m. 2.27.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 66.25 | | | | 326.55 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .62 | | | 17¾ | | | | | | | | | | | | | | | | | | | | |
| 2 | .62 | | | 18 | .56½ | | | 11 | | | | | | | | | | | | | | | | |
| 3 | .60½ | | | 21 | .55 | | | 11½ | | | | | | | | | | | | | | | | |
| 4 | .60½ | | | 21½ | .55 | | | 12¾ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.56 | | | | 11.58 | | | | | | | | | | | | | | | | |
| x | | | | 62.1 | | | | 36.8 | | | | | | | | | | | | | | | | |

| #37 | 10.35pm. 1.30.96 | | | | 1.10pm. 1.31.96 | | | | 8.25pm. 1.31.96 | | | | 5.05pm. 2.1.96 | | | | 4.45pm. 2.3.96 | | | | 10am. 2.4.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5. | | | | 11.35 | | | | 18.50 | | | | 31.00 | | | | 40 | | | | 50.15 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .66 4/7 | | | 32 1/2 | .66 | | | 28 4/7 | .65 4/7 | | | 26 | .64 1/2 | | | 22 1/2 | .64 | | | 22 | .64 1/2 | | | 22 3/7 |
| 2 | .67 4/7 | | | 33 | .66 3/7 | | | 28 1/2 | .65 3/7 | | | 24 1/2 | .65 | | | 21 | .64 1/2 | | | 20 | .64 | | | 18 1/2 |
| 3 | .66 | | | 33 | .65 | | | 28 1/2 | .64 4/7 | | | 24 1/2 | .63 3/7 | | | 22 | .64 1/7 | | | 20 2/7 | .62 2/7 | | | 19 |
| 4 | .63 1/2 | | | 31 | .63 | | | 26 | .62 | | | 23 1/2 | .61 | | | 19 4/7 | .60 1/2 | | | 18 1/2 | .60 | | | 17 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 32.37 | | | | 27.81 | | | | 24.62 | | | | 21.19 | | | | 20.31 | | | | 19.31 |
| % | | | | 99.1 | | | | 85.1 | | | | 75.5 | | | | 64.9 | | | | 62.2 | | | | 59.1 |

| #37 | 10.35pm. 1.30.96 | | | | 1.10pm. 1.31.96 | | | | 8.25pm. 1.31.96 | | | | 5.05pm. 2.1.96 | | | | 4.45pm. 2.3.96 | | | | 10am. 2.4.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5. | | | | 11.35 | | | | 18.50 | | | | 31.00 | | | | 40 | | | | 50.15 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .66 | | | 32 | .65 | | | 28 | .64 4/7 | | | 25 3/7 | .63 1/2 | | | 22 | .63 | | | 21 | .62 1/2 | | | 19 |
| 2 | .65 4/7 | | | 32 | .64 3/7 | | | 28 | .64 | | | 26 | .63 1/2 | | | 22 | .63 | | | 20 3/7 | .62 | | | 19 1/2 |
| 3 | .63 | | | 31 | .62 4/7 | | | 28 | .61 4/7 | | | 24 3/4 | .61 | | | 21 1/2 | .61 | | | 21 1/2 | .60 2/7 | | | 21 |
| 4 | .62 4/7 | | | 30 | .62 | | | 27 1/2 | .61 4/7 | | | 25 | .61 | | | 22 | .60 4/7 | | | 21 1/7 | .60 2/7 | | | 21 1/2 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 31 4/7 | | | | 27.57 | | | | 25.37 | | | | 21.87 | | | | 21.12 | | | | 20.31 |
| % | | | | 99.2 | | | | 88.5 | | | | 80.5 | | | | 69.5 | | | | 67 | | | | 64.5 |

ORDER No. 68 Edison # 37A

At $32\frac{2}{3}$ Candles. Test Started 5.35 p.m. 1.30.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life minutes | Order of breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | $99\frac{1}{4}$ | $.66\frac{3}{4}$ | 5.35 p.m. 2.12.96 | 152.35 | 1 | 88 | .57 |
| 2 | $95\frac{3}{4}$ | .67 | 8.50 p.m. 2.18.96 | 224.20 | 3 | 85 | $.57\frac{1}{2}$ |
| 3 | 98 | $.66\frac{3}{4}$ | 5.55 p.m. 2.26.96 | 311.25 | 4 | 87 | .57 |
| 4 | 100 | .64 | 8.35 a.m. 2.14.96 | 174.35 | 2 | 89 | $.54\frac{3}{4}$ |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 98.25 | .661 | | 215.44 | | 87.25 | .566 |




P. Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 242 |
| At $32\frac{2}{3}$ Candles. | 375 |

Put away in box

ORDER No. 69 Edison 37B

At $31\frac{1}{2}$ Candles. Test Started 5.35 p.m. 1.30.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life minutes | Order of breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | 97 | $.65\frac{1}{4}$ | 9.20 a.m. 2.20.96 | 244.50 | 1 | $86\frac{1}{4}$ | .56 |
| 2 | 97 | $.65\frac{1}{2}$ | 10.35 p.m. 3.5.96 | 409.35 | 2 | $86\frac{1}{4}$ | .56 |
| 3 | $98\frac{3}{4}$ | $.63\frac{1}{2}$ | 8.48 a.m. 3.21.96 | 580.45 | 4 | 88 | $.54\frac{1}{4}$ |
| 4 | $99\frac{1}{4}$ | .63 | 8.45 a.m. 3.6.96 | 412.45 | 3 | 89 | .54 |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 98 | 64.31 | | 411.57 | | 87.37 | .551 |




P. Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At $31\frac{1}{2}$ Candles. | 372 |

Put away in box.

#37 e

| | 10.25am 2.5.96 | | | | 8.25pm 2.27.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 66.25 | | | | 326.55 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .58½ | | | 17½ | .52½ | | | 11½ | | | | | | | | | | | | | | | | |
| 2 | .60½ | | | 19 | | | | | | | | | | | | | | | | | | | | |
| 3 | .60 | | | 19 | .54 | | | 11¾ | | | | | | | | | | | | | | | | |
| 4 | .57 | | | 17 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.12 | | | | 11.62 | | | | | | | | | | | | | | | | |
| % | | | | 58.9 | | | | 37.8 | | | | | | | | | | | | | | | | |

#37 D

| | 10.25am 2.5.96 | | | | 8.25pm 2.27.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 66.25 | | | | 326.55 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .59½ | | | 16½ | .54 | | | 10½ | | | | | | | | | | | | | | | | |
| 2 | .61 | | | 18¼ | .55 | | | 10 | | | | | | | | | | | | | | | | |
| 3 | .61½ | | | 18¼ | | | | | | | | | | | | | | | | | | | | |
| 4 | .61 | | | 20½ | .55 | | | 12 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.44 | | | | 10.8 | | | | | | | | | | | | | | | | |
| % | | | | 55.5 | | | | 34.3 | | | | | | | | | | | | | | | | |

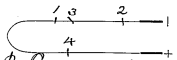
37 a 10.35 p.m. 1.30.96 | 7.10 p.m. 1.31.96 | 8.25 p.m. 1.31.96 | 5.05 p.m. 2.1.96 | 4.45 p.m. 2.3.96 | 10 a.m. 2.4.96

| No. | 5. A | R | V | C.P. | 11.35 A | R | V | C.P. | 18.50 A | R | V | C.P. | 31.30 A | R | V | C.P. | 40 A | R | V | C.P. | 50.15 A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .61 3/4 | | | 20 3/4 .61 1/4 | | | | 27 1/2 .60 1/2 | | | | 24 1/2 .60 | | | | 22 1/2 .59 1/4 | | | | 20 1/2 .59 | | | | 19 |
| 2 | .64 | | | 31 .64 | | | | 32 .63 1/2 | | | | 31 .60 | | | | 29 .62 | | | | 25 1/4 .61 1/4 | | | | 22 |
| 3 | .63 3/4 | | | 30 1/4 .63 | | | | 30 1/2 .62 1/4 | | | | 28 1/2 .62 | | | | 28 .61 | | | | 24 3/4 .60 3/4 | | | | 22 |
| 4 | .64 | | | 29 1/4 .60 | | | | 26 .59 1/4 | | | | 23 1/4 .59 | | | | 21 1/2 .58 1/2 | | | | 20 .57 1/4 | | | | 18 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 30.06 | | | | 28.94 | | | | 26.81 | | | | 25.25 | | | | 22.62 | | | | 20.4 |
| % | | | | 97.8 | | | | 94.1 | | | | 87.1 | | | | 82.1 | | | | 73.5 | | | | 65.8 |

37 b 10.35 p.m. 1.30.96 | 1.10 p.m. 1.31.96 | 8.25 p.m. 1.31.96 | 5.05 p.m. 2.1.96 | 4.45 p.m. 2.3.96 | 10 a.m. 2.4.96

| No. | 5 A | R | V | C.P. | 11.35 A | R | V | C.P. | 18.50 A | R | V | C.P. | 31.30 A | R | V | C.P. | .40 A | R | V | C.P. | 50.15 A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .63 1/2 | | | 30 1/2 .63 | | | | 28 .62 1/4 | | | | 25 .61 1/4 | | | | 27 1/2 .61 | | | | 19 3/4 .60 | | | | 18 |
| 2 | .64 | | | 31 1/2 .64 | | | | 32 .64 | | | | 31 .64 | | | | 29 .63 | | | | 25 1/4 .62 | | | | 21 1/2 |
| 3 | .65 | | | 32 .65 | | | | 32 .65 | | | | 31 3/4 .65 | | | | 30 1/4 .63 1/2 | | | | 25 .62 3/4 | | | | 21 1/2 |
| 4 | .63 | | | 31 .62 1/2 | | | | 28 1/2 .61 1/2 | | | | 24 3/4 .61 1/4 | | | | 23 .61 | | | | 21 1/2 .61 | | | | 21 1/2 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 31.25 | | | | 30.12 | | | | 28.12 | | | | 28.69 | | | | 23 | | | | 20.62 |
| % | | | | 99.2 | | | | 95.6 | | | | 89.2 | | | | 81.5 | | | | 73 | | | | 65.5 |

ORDER NO. 70 Edison #37 C




P. Loop untreated

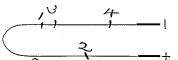
At $30\frac{3}{4}$ Candles. Test Started 5:35 p.m. 1.30.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $97\frac{3}{4}$ | .63 | 4.25 p.m. 3.2.96 | 360.10 | 3 | | 88 | $.54\frac{1}{4}$ |
| 2 | 96 | $.64\frac{1}{4}$ | 3.15 p.m. 2.24.96 | 278.45 | 1 | | 86 | .55 |
| 3 | $96\frac{1}{4}$ | .64 | 5.45 p.m. 3.26.96 | 642.15 | 4 | | $87\frac{1}{4}$ | .55 |
| 4 | $98\frac{1}{2}$ | $.62\frac{1}{4}$ | 1.50 p.m. 2.25.96 | 308.20 | 2 | | $88\frac{1}{2}$ | $.53\frac{1}{2}$ |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.1 | .634 | | 397.22 | | | 87.44 | .544 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 251 |
| At $30\frac{3}{4}$ Candles. | 372 |

Cut away in box

ORDER NO. 71 Edison #37 D




P. Loop untreated

At $31\frac{1}{2}$ Candles. Test Started 5:35 p.m. 1.30.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 98 | $.63\frac{3}{4}$ | 1.30 p.m. 3.7.96 | 431.30 | 2 | | 88 | .55 |
| 2 | $96\frac{1}{2}$ | .64 | 8.20 p.m. 3.18.96 | 545.20 | 4 | | $86\frac{1}{2}$ | .55 |
| 3 | $96\frac{1}{2}$ | .65 | 3.25 p.m. 2.18.96 | 219.55 | 1 | | $86\frac{1}{2}$ | .56 |
| 4 | 99 | .63 | 5.05 p.m. 3.13.96 | 489.05 | 3 | | 88 | .54 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.5 | .639 | | 421.27 | | | 87.25 | .55 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At $31\frac{1}{2}$ Candles. | 375 |

Cut away in box.

| I.P.I. | 5.20pm. 23.9.96 | | | | 10.30am. 2.4.96 | | | | 10.25am. 2.5.96 | | | | 8.25pm. 2.27.96 | | | | 3.15pm. 5.18.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | | | | 20.50 | | | | 36.30 | | | | 1297 | | | | 1155.55 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 2/7 | | | 16 | .49 2/7 | | | 16 | .50 | | | 15 2/7 | .47 | | | 13 1/7 | .45 | | | 10 | | | | |
| 2 | .49 | | | 15 | .47 | | | 15 | .49 | | | 15 | .47 1/2 | | | 13 | .45 | | | 9 3/7 | | | | |
| 3 | .48 3/7 | | | 16 | .48 1/2 | | | 15 3/4 | .48 3/7 | | | 15 1/7 | .45 | | | 13 | | | | | | | | |
| 4 | .49 | | | 15 1/2 | .49 | | | 16 | .49 | | | 15 | .45 | | | 11 | | | | | | | | |
| 5 | .47 1/2 | | | 15 1/2 | .47 3/7 | | | 16 | .48 1/2 | | | 16 | .45 | | | 14 1/7 | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.6 | | | | 15.75 | | | | 15.41 | | | | 12.9 | | | | 9.88 | | | | |
| % | | | | 101 | | | | 102 | | | | 99.3 | | | | 83.2 | | | | 63.7 | | | | |

ORDER NO. 72 Edison #95 A




At 55 Candles. Test Started 3.30 p.m. 2.1.96 At 16 Candles.

V. Proof untreated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | Broken on Photo: | | | | | | 85 | .81 3/4 |
| 2 | 105 | .106 | 8.45 a.m. 2.3.96 | 3.05 | 3 | | 85 1/2 | .82 |
| 3 | 105 | .104 1/2 | 9.20 a.m. 2.3.96 | 3.40 | 4 | | 85 1/2 | .80 1/2 |
| 4 | 107 | .103 3/4 | 3.55 p.m. 2.1.96 | .25 | 1 | | 86 1/4 | .80 |
| 5 | 108 | .103 | 6 p.m. 2.1.96 | 2.30 | 2 | | 87 | .79 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.4 | 1043 | | 2.25 | | | 85.45 | 80.65 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 173 |
| At 55 Candles. | 370 |

Returning to lab

ORDER NO. 73 L.F. F

3W




At 15 1/2 Candles. Test Started 3.30 p.m. 2.1.96 At 16 Candles.

P. Oral Spirit

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 94 1/4 | .49 1/2 | Fallen down | 2082.— | | | 95 | .50 |
| 2 | 95 | .49 | 1.30 p.m. 10.2.96 | 2082.— | | | 95 1/2 | .49 1/2 |
| 3 | 94 | .49 | 8.25 a.m. 4.8.96 | 723.25 | 3 | | 94 1/4 | .49 |
| 4 | 94 1/4 | .49 | 1.34 p.m. 2.28.96 | 304.10 | 1 | | 95 | .49 1/2 |
| 5 | 95 1/4 | .47 1/2 | 5.55 p.m. 3.12.96 | 445— | 2 | | 96 | .48 |
| 6 | | | | | | | | |
| 7 | | | | 147 2.35 | | | | |
| 8 | | | | 490 0.55 | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 94.55 | .488 | | 1127.55 | | | 95.15 | .492 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 254 |
| At 15 1/2 Candles. | 251 |

| Pulses | 5.20 p.m. 2.3.96 | | | | 10.30 a.m. 2.4.96 | | | | 10.25 a.m. 2.5.96 | | | | 8.25 p.m. 2.27.96 | | | | 3.15 p.m. 5.18.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9.05 | | | | 19.45 | | | | 35.25 | | | | 298.55 | | | | 1154.50 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .42½ | | | 16¾ | .42½ | | | 16¾ | .42¼ | | | 16 | .38 | | | 12½ | .30½ | | | 6 | | | | |
| 2 | .43¾ | | | 16 | .44 | | | 16¼ | .43¾ | | | 15½ | | | | | | | | | | | | |
| 3 | .45 | | | 18 | .45 | | | 17¾ | .44¾ | | | 18 | | | | | | | | | | | | |
| 4 | .41¼ | | | 15¼ | .41¼ | | | 15½ | .41¼ | | | 15 | | | | | | | | | | | | |
| 5 | .42½ | | | 17 | .42½ | | | 16½ | .42½ | | | 16 | .37 | | | 12¼ | .30¼ | | | 5¼ | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.6 | | | | 16.55 | | | | 16.1 | | | | 12.38 | | | | 5.63 | | | | |
| % | | | | 107 | | | | 107 | | | | 104 | | | | 79.9 | | | | 36.3 | | | | |

| Pulses | 5.20 p.m. 2.3.96 | | | | 10.30 a.m. 2.4.96 | | | | 10.25 a.m. 2.5.96 | | | | 8.25 p.m. 2.27.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10- | | | | 20.30 | | | | 36.40 | | | | 297 | | | | | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .44 | | | 17 | .44 | | | 17 | .43¾ | | | 16½ | | | | | | | | | | | | |
| 2 | .44½ | | | 16½ | .44 | | | 16 | .44 | | | 15½ | .40 | | | 14 | | | | | | | | |
| 3 | .44 | | | 16¾ | .44 | | | 16¾ | .44¼ | | | 17 | | | | | | | | | | | | |
| 4 | .43½ | | | 16 | .43½ | | | 16 | .43½ | | | 16 | .40 | | | 13¾ | | | | | | | | |
| 5 | .44 | | | 16½ | .44 | | | 16½ | .44 | | | 16¼ | .40 | | | 14 | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.5 | | | | 16.45 | | | | 16.3 | | | | 13.92 | | | | | | | | |
| % | | | | 101 | | | | 101 | | | | 99.9 | | | | 85.2 | | | | | | | | |

ORDER No. 74 Packard

3 W

At 15½ Candles. Test Started 4.25 pm. 2.1.96 At 16 Candles.

Spiral treated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107½ | .42¼ | 3.20 pm. 6.18.96 | 1495.15 | 4 | | 108 | .43 |
| 2 | 106½ | .43½ | 9.10 am 2.19.96 | 198.40 | 2 | | 107¼ | .43¾ |
| 3 | 108½ | .45¾ | 10.50 am. 2.14.96 | 145.50 | 1 | | 109 | .45¾ |
| 4 | 107½ | .41¼ | 11.25 am. 2.27.96 | 289.55 | 3 | | 108¼ | .41½ |
| 5 | 108½ | .41¼ | Talks down 1.30 pm. 10.2.96 | 2050.55 | | | 109 | .41¾ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.7 | .428 | | 542.07 | | | 108.3 | .4315 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 254 |
| At 15½ Candles. | 251 |

ORDER No. 75 Columbia

OC 3 W.

At 16⅓ Candles. Test Started 3.30 pm. 2.1.96 At 16 Candles.

Spiral treated

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111¾ | .44 | 4.15 pm. 2.18.96 | 190.50 | 1 | | 111½ | .43 |
| 2 | 112¼ | .44¾ | 5.20 pm. 3.10.96 | 414.25 | 3 | | 111½ | .44¾ |
| 3 | 111 | .44 | 4.30 pm. 2.27.96 | 295.05 | 2 | | 110½ | .44 |
| 4 | 111¼ | .43¾ | 5.50 pm. 3.11.96 | 429.55 | 4 | | 111 | .43½ |
| 5 | 112½ | .44 | 8.40 am 4.8.96 | 723.40 | 5 | | 112 | .43¾ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.75 | | | 410.47 | | | 111.3 | .437 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 16⅓ Candles. | 247 |

Put away in box

| 37B 1500 L. | 2 p.m. 2.3.96 | | | | 11 a.m. 2.4.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.20 | | | | 21.20 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 70½ | | | 34 | .69½ | | | 32 | | | | | | | | | | | | | | | | |
| 2 | .64½ | | | 28½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 29.87 | | | | 32 | | | | | | | | | | | | | | | | |
| % | | | | 86.2 | | | | 92.3 | | | | | | | | | | | | | | | | |

| 37B 0 L. | 2 p.m. 2.3.96 | | | | 11 a.m. 2.4.96 | | | | 10.25 a.m. 2.5.96 | | | | | 8.25 p.m. 2.27.96 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.20 | | | | 21.20 | | | | 36.30 | | | | | 297 | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .61 | | | 28 | .60 | | | 22½ | .59 | | | 20 | .54 | | | 12 | | | | | | | | |
| 2 | .60½ | | | 28½ | .64½ | | | 23 | .63 | | | 19½ | | | | | | | | | | | | |
| 3 | .65 | | | 29½ | .63½ | | | 22½ | .63 | | | 20½ | | | | | | | | | | | | |
| 4 | .57½ | | | 21½ | .64 | | | 23 | .63½ | | | 20½ | | | | | | | | | | | | |
| 5 | .62½ | | | 27½ | .61½ | | | 22 | .60½ | | | 19½ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 26.25 | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 27.5 | | | | 22.65 | | | | 20.05 | | | | 12 | | | | | | | | |
| % | | | | 84.9 | | | | 71.3 | | | | 63.1 | | | | 37.8 | | | | | | | | |

ORDER No. 76 Edison #37 E

At $34\frac{2}{3}$ Candles. Test Started 3.30 p.m. 2.1.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $98\frac{3}{4}$ | $.70\frac{3}{4}$ | 8.50 a.m. 2.5.96 | 34.55 | 3 | | 86 | .59 |
| 2 | 104 | $.66\frac{1}{2}$ | 8.15 a.m. 2.4.96 | 18.35 | 2 | | 91 | .56 |
| 3 | $103\frac{1}{2}$ | $.70\frac{3}{4}$ | 8.30 a.m. 2.3.96 | 2.50 | 1 | | 89 | $.58\frac{1}{2}$ |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 102.08 | .693 | | 18.47 | | | 88.4 | .578 |

P. Pop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 233 |
| At $34\frac{2}{3}$ Candles. | 364 |

Put away in box

ORDER No. 77 Edison #37 F

At $31\frac{3}{4}$ Candles. Test Started 3.30 p.m. 2.1.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $98\frac{1}{2}$ | $.62\frac{3}{4}$ | 9.55 p.m. 3.10.96 | 418 | 5 | | $88\frac{1}{4}$ | .54 |
| 2 | 96 | .67 | 4.10 p.m. 2.25.96 | 264.45 | 4 | | 85 | $.56\frac{1}{4}$ |
| 3 | $96\frac{3}{4}$ | $.66\frac{3}{4}$ | 2.30 p.m. 2.17.96 | 174.35 | 2 | | 86 | .57 |
| 4 | $96\frac{1}{4}$ | .67 | 9.30 p.m. 2.10.96 | 95.35 | 1 | | $85\frac{3}{4}$ | .57 |
| 5 | 98 | $.64\frac{1}{2}$ | 3.55 p.m. 2.24.96 | 249.30 | 3 | | $87\frac{1}{4}$ | .55 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.1 | | | 240.25 | | | 86.45 | .5585 |

P. Pop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 246 |
| At $31\frac{3}{4}$ Candles. | 371 |

Put away in box

| #37 H wt L. | 2 p.m. 2.3.96 | | | | 11 a.m. 2.4.96 | | | | 10.25 a.m. 2.5.96 | | | | 8.25 p.m. 2.27.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.20 | | | | 21.20 | | | | 36.30 | | | | 297 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .64 | | | 28½ | .63 | | | 23½ | .62 | | | 20¼ | .57 | | | 12¼ | | | | | | | | |
| 2 | .64¼ | | | 28½ | .62½ | | | 22½ | .62 | | | 20 | | | | | | | | | | | | |
| 3 | .64 | | | 29½ | .65 | | | 24½ | .648 | | | 21¼ | | | | | | | | | | | | |
| 4 | .64 | | | 28½ | .63 | | | 23 | .62 | | | 20¼ | .56 | | | 12 | | | | | | | | |
| 5 | .65½ | | | 32¼ | .63 | | | 30¾ | .63¼ | | | 30 | .55 | | | 12½ | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 29.45 | | | | 24.8 | | | | 22.45 | | | | 12.25 | | | | | | | | |
| % | | | | 92 | | | | 77.5 | | | | 70.1 | | | | 38.3 | | | | | | | | |

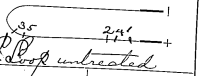
Put away in box

| #37 I wt L. | 2 p.m. 2.3.96 | | | | 9.40 a.m. 2.4.96 | | | | 10.25 a.m. 2.5.96 | | | | 10.45 p.m. 2.14.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7.20 | | | | 20. | | | | 36.50 | | | | 156.50 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .65 | | | 29 | .63¼ | | | 23¼ | .62 | | | 20¼ | | | | | | | | | | | | |
| 2 | .62½ | | | 32 | .61¼ | | | 21½ | .61 | | | 30 | .56 | | | 16¼ | | | | | | | | |
| 3 | .62 | | | 25¼ | .61½ | | | 21½ | .60½ | | | 19½ | | | | | | | | | | | | |
| 4 | .66¼ | | | 30½ | .56½ | | | 19¼ | | | | | | | | | | | | | | | | |
| 5 | .63½ | | | 28¾ | .60½ | | | 22 | .61 | | | 21 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 29.2 | | | | 23.55 | | | | 22.67 | | | | 16¼ | | | | | | | | |
| % | | | | 59.8 | | | | 72.4 | | | | 69.8 | | | | 50 | | | | | | | | |

ORDER No. 78 Edison #37 H

At 32 Candles. Test Started 3.30 p.m. 2.1.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 97½ | .65¾ | 5.50 p.m. 3.5.96 | 376.10 | 4 | | 86½ | .56 |
| 2 | 97¾ | .65¼ | 9.50 p.m. 2.24.96 | 254.25 | 1 | | 87¼ | .56 |
| 3 | 97¼ | .67¼ | 5.20 p.m. 2.27.96 | 295.55 | 2 | | 86½ | .57 |
| 4 | 98¼ | .65¾ | 1.30 p.m. 3.11.96 | 425.35 | 5 | | 87¼ | .56 |
| 5 | 99 | .64 | 7.30 a.m. 3.5.96 | 366.50 | 3 | | 88 | .54 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.95 | .656 | | 343.47 | | | 87.1 | .558 |




J. Loop untreated

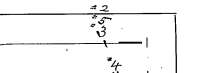
| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 32 Candles. | 371 |

Put away in box

ORDER No. 79 Edison #37 I

At 32½ Candles. Test Started 3.30 p.m. 2.1.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 96¼ | .67½ | 9.30 a.m. 2.13.96 | 129.35 | 4 | | 85 | .57 |
| 2 | 99½ | .63¾ | 4.55 p.m. 2.18.96 | 191.30 | 5 | | 88 | .54 |
| 3 | 100¼ | .67½ | 5.15 p.m. 2.5.96 | 40.50 | 2 | | 89 | .57 |
| 4 | 97 | .65 | 8.30 p.m. 2.4.96 | 29.50 | 1 | | 90 | .55 |
| 5 | 97½ | .66½ | 3.15 p.m. 2.6.96 | 51.35 | 3 | | 87 | .56¾ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 98.1 | 66.05 | | 88.52 | | | 87.8 | .559 |




J. Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 243 |
| At 32½ Candles. | 374 |

Put away in box

| #37 | 9.25 a.m. 2.4.96 | | | | 1.20 p.m. 2.5.96 | | | | 9 a.m. 2.28.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10.05 | | | | 28.05 | | | | 298.25 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .64 | | | 27 | .62½ | | | 20½ | | | | | | | | | | | | | | | | |
| 2 | .66 | | | 27½ | .64 | | | 20½ | | | | | | | | | | | | | | | | |
| 3 | .64 | | | 27 | .62½ | | | 20½ | | | | | | | | | | | | | | | | |
| 4 | .66½ | | | 27 | .65 | | | 20½ | .55 | | | 10 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 27.19 | | | | 20.44 | | | | 10 | | | | | | | | | | | | |
| % | | | | 79.4 | | | | 59.7 | | | | 29.2 | | | | | | | | | | | | |

| #38 | 3.20 p.m. 2.5.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 126.10 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .58 | | | 14 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 50 | | | | | | | | | | | | | | | | | | | | |

| Date | 10.45AM 5.16.96 | | | | 3pm. 5.18.96 | | | | 9.45am. 5.19.96 | | | | 3pm. 5.20.96 | | | | 2.35pm. 5.21.96 | | | | 9.30am. 5.22.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Temp. | 10.15 | | | | 19.30 | | | | 30 = | | | | 47.25 | | | | 59.40 | | | | 84.20 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 52¼ | | 96 | 26.5 | 52 | | | 25 | | | | 21 | 60 | | | 19½ | 59 | | | 18¾ | 59 | | | 16¾ |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 26.5 | | | | 25 | | | | 21 | | | | 19½ | | | | 18¾ | | | | 16¾ |
| % | | | | 94.6 | | | | 89.3 | | | | 75 | | | | 70 | | | | 65.2 | | | | 59.8 |

Wrong Reading

ORDER No. 80 Edison #37 G

At 34¼ Candles. Test Started 4.20 Pm. 2.3.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 99¼ | .65¼ | 10.55 a.m. 2.25.96 | 256.20 | 3 | | 87 | .54¾ |
| 2 | 99½ | .67 | 11.10 Pm. 2.12.96 | 128.05 | 1 | | 87½ | .56¼ |
| 3 | 99¾ | .65¾ | 2.10 Pm. 3.4.96 | 355.20 | 4 | | 87¾ | .55¼ |
| 4 | 97¾ | .68 | 10.45 Pm 2.19.96 | 207.10 | 2 | | 86 | .57¼ |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99.06 | .665 | | 235.29 | | | 87.06 | .584 |

P. loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 235 |
| At 34¼ Candles. | 387 |

Lost away wire

ORDER No. 81 Edison Special #1

At 28 Candles. Test Started 4.30 Pm. 5.15.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 96 | .52½ | 5.55 Pm 5.27.96 | 128.45 | | | 88 | .57 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 128.45 | | | | |

P. loop

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 414 |

30 34 7817
40 7314
50

| Sunbeam Wt. L. | 2.40 p.m. 5.21.96 | | | | 9.20 a.m. 5.23.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13.35 | | | | 38 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 18 2/7 | .50 | | | 18 2/7 | | | | | | | | | | | | | | | | |
| 2 | .49 | | | 17 2/7 | .49 | | | 18 2/7 | | | | | | | | | | | | | | | | |
| 3 | .50 | | | 18 2/7 | .50 | | | 19 | | | | | | | | | | | | | | | | |
| 4 | .49 | | | 18 | .50 | | | 18 4/7 | | | | | | | | | | | | | | | | |
| 5 | .50 | | | 19 3/7 | .50 | | | 19 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 18.4 | | | | 18.75 | | | | | | | | | | | | | | | | |
| % | | | | 96.8 | | | | 98.7 | | | | | | | | | | | | | | | | |

| Germ. | 2.40 p.m. 5.21.96 | | | | 9.30 a.m. 5.23.96 | | | | 5.05 p.m. 7.1.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13.35 | | | | 38 | | | | 449.35 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .53 1/2 | | | 19 1/2 | .52 1/2 | | | 17 2/7 | .46 | | | 8 2/2 | | | | | | | | | | | | |
| 2 | .53 | | | 16 1/2 | .53 | | | 17 2/7 | .46 | | | 9 1/2 | | | | | | | | | | | | |
| 3 | .52 1/2 | | | 18 1/2 | .54 | | | 17 4/7 | .46 | | | 9 | | | | | | | | | | | | |
| 4 | .53 | | | 17 2/7 | .53 | | | 18 | | | | | | | | | | | | | | | | |
| 5 | .62 | | | 18 | .50 | | | 13 3/7 | .47 | | | 10 1/7 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 18.05 | | | | 17.3 | | | | 9.37 | | | | | | | | | | | | |
| % | | | | 102 | | | | 98.9 | | | | 52.5 | | | | | | | | | | | | |

ORDER No. 82 Sunbeam

3TK

At 19 Candles. Test Started 2.45 pm. 5.20.96 At 16 Candles.

Spiral

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 113 | .50 | 5.30 pm. 6.12.96 | 254 | 1 | 110 | .48 |
| 2 | 114½ | .50 | 11.40 am. 8.28.96 | 566.35 | 5 | 111½ | .48 |
| 3 | 113 | .49 | 8.50 pm. 6.16.96 | 289.20 | 2 | 110 | .47½ |
| 4 | 114 | .49½ | 9.15 pm. 6.26.96 | 408.15 | 4 | 112 | .48 |
| 5 | 116 | .50 | 7.10 am. 6.18.96 | 305.40 | 3 | 113 | .48 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 114.1 | .497 | | 364.46 | | 111.3 | .479 |

4 | 27.15 / 314.19 | 1

Subtract, 2 hrs

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 224 |
| At 19 Candles. | 257 |

ORDER No. 83 German

3TK

At 17½ Candles. Test Started 2.45 pm. 5.20.96 At 16 Candles.

Spiral

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 103 | .53 | #1.2.3.5 Cable down 10.2.96 | | | 101 | .50 |
| 2 | 102½ | .52½ | 11.30 pm | | | 101 | .52 |
| 3 | 102½ | .50 | | | | 101 | .50 |
| 4 | 101 | .52 | 9.15 pm. 6.9.96 | 219.15 | 1 | 100 | .51 |
| 5 | 101½ | .52 | " | | | 100½ | .50 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 102.1 | .519 | | | | 100.7 | .506 |

Lung Cable Broke

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 234 |
| At 17½ Candles. | 247 |

Bullock Red L. 2.40 p.m. 5.21.96 | 9.30 a.m. 5.23.96

13.35 | 38

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .40 | | | 14 | .44 | | | 15 | | | | | | | | | | | | | | | | |
| 2 | .43 | | | 14 3/4 | .43 1/2 | | | 13 1/4 | | | | | | | | | | | | | | | | |
| 3 | .42 | | | 11 3/4 | .44 | | | 11 1/2 | | | | | | | | | | | | | | | | |
| 4 | .41 | | | 11 1/2 | .41 5/8 | | | 11 3/4 | | | | | | | | | | | | | | | | |
| 5 | .41 | | | 12 3/4 | .40 | | | 12 3/4 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 12.85 | | | | 12.9 | | | | | | | | | | | | | | | | |
| % | | | | 78.7 | | | | 78.4 | | | | | | | | | | | | | | | | |

Bullock 2.40 p.m. 5.21.96 | 9.30 a.m. 5.23.96

13.35 | 38

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .43 | | | 16 | .44 | | | 16 3/4 | | | | | | | | | | | | | | | | |
| 2 | .42 1/2 | | | 16 1/2 | .43 1/2 | | | 16 1/2 | | | | | | | | | | | | | | | | |
| 3 | .43 1/2 | | | 16 3/4 | .44 | | | 16 3/4 | | | | | | | | | | | | | | | | |
| 4 | .43 | | | 15 3/4 | .43 1/2 | | | 16 3/4 | | | | | | | | | | | | | | | | |
| 5 | .43 | | | 15 3/4 | .43 1/2 | | | 17 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | .43 | | | 16 | | | | 16.75 | | | | | | | | | | | | | | | | |
| % | | | | 100 | | | | 105 | | | | | | | | | | | | | | | | |

ORDER No. 84 Buckeye

At 16 1/3 Candles. Test Started 2.45 p.m. 5-20-96 At 16 Candles.

Spiral

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. UNIFORM. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116 | .42 | 5 p.m. 5-28-96 | 95.40 | 1 | | 115 1/2 | .40 |
| 2 | 116 1/2 | .43 | | | | | 116 | .42 1/2 |
| 3 | 116 | .43 | Taken down | | | | 115 1/2 | .42 1/2 |
| 4 | 117 1/2 | .44 | 1.30 p.m. 11/6/96 | Incl. burning | | | 117 | .42 1/2 |
| 5 | 119 | .42 1/2 | | Equivalent | | | 118 1/2 | .42 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 117 | .429 | | | | | 116.5 | .419 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 16 1/3 Candles. | 243 |

ORDER No. 85 Columbia

At 16 Candles. Test Started 2.45 p.m. 5-20-96 At 16 Candles.

Spiral

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. UNIFORM. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 1.25 p.m. 6.11.96 | 236.25 | 2 | | 110 | .43 |
| 2 | | | 10.40 a.m. 6.4.96 | 160.20 | 1 | | 112 | .43 |
| 3 | | | 4.05 p.m. 6.23.96 | 361.05 | 4 | | 111 | .44 |
| 4 | | | 4.35 p.m. 6.29.96 | 424.05 | 5 | | 111 1/2 | .43 |
| 5 | | | 9.55 p.m. 6.19.96 | 333.25 | 3 | | 112 | .43 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 303.04 | | | 111.3 | .432 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At Candles. | |

Put away in box

| Sd. 42 Ex. 52 | 11.55 a.m. 5.20.96 | | | | 2.35 p.m. 5.21.96 | | | | 9.30 a.m. 5.23.96 | | | | 3.20 p.m. 5.27.96 | | | | 2.40 p.m. 6.1.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10 | | | | 24.15 | | | | 43.50 | | | | 85.50 | | | | 128.15 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .62 | | 55.5 | 27 | .60 | | 72.1 | 22 .60 | | | 64.7 | 19¾ | .58½ | | 50.8 | 15½ .58 | | | 47½ | 14½ | | | | |
| 2 | .60 | | 95.1 | 29 | .60 | | 96.7 | 29½ .60 | | | 78.7 | 24 | .59 | | 61.5 | 18¾ .57½ | | | 52½ | 16 | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | .61 | | 28 | | 60 | | 25.75 | | | | 21.88 | | | | 17.12 | | | | 15¼ | | | | | |
| % | | | 91.8 | | | | 84.4 | | | | 71.7 | | | | 56.2 | | | | 50 | | | | | |

| Ex. Sp. 52 Sd. 42 | 7.20 p.m. 9.25.96 | | | | 10 a.m. 8.21.96 | | | | 10 p.m. 8.28.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 31.40 | | | | 60.05 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .62 | | | 20½ | .61½ | | | 18½ | — | | | — | | | | | | | | | | | | |
| 2 | .69 | | | 24 | .67½ | | | 20 | .65 | | | 16½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.12 | | | | 19¼ | | | | 16½ | | | | | | | | | | | | |
| % | | | | 60.7 | | | | 52.7 | | | | 45.2 | | | | | | | | | | | | |

ORDER No. 86 Edison Special #2

At 30½ Candles. Test Started 3.05 Pm. 5.19.96 At 16 Candles.

P. Loop untreated.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 98½ | .63 | 10.30 a.m. 6.5.96 | 180.20 | 1 | | 89 | .54 |
| 2 | 97¾ | .62 | 9.35 a.m. 6.27.96 | 417.45 | 2 | | 88½ | .52½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10. | | | | | | | | |
| Avg. | 98.12 | .62½ | | 299.02 | | | 88¾ | .532 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At 30½ Candles. | 372 |

ORDER No. 87 Edison Special #1 2/3

At 36½ Candles. Test Started 11.40 a.m. Aug 24 96 At 16 Candles.

Platinum loop untreated.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104 | .66 | 3.25 Pm. 8.28.96 | 54.30 | 1 | | 91 | .56 |
| 2 | 103½ | .72 | 3.30 Pm. 9.1.96 | 80.05 | 2 | | 90½ | .60 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 103.8 | .69 | | 67.17½ | | | 90.62 | .58 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 226 |
| At 36½ Candles. | 380 |

| I.T.Co | 7.20 p.m. 8/28/96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .55 | | | 30 | | | | | | | | | | | | | | | | | | | | |
| 2 | .58 | | | 31 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | .57 | | | 29 | | | | | | | | | | | | | | | | | | | | |
| 5 | .58 | | | 31 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 30¼ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 87.7 | | | | | | | | | | | | | | | | | | | | |

| #89 | 7.45 p.m. 9.9.96 | | | | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | | 8.30 p.m. 9.21.96 | | | | 8.30 p.m. 9.23.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I.T.Co | 157.50 | | | | 180.05 | | | | 215.35 | | | | 235.10 | | | | 262.35 | | | | 289 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .47 | | | 16¾ | .46 | | | 15¼ | | | | | | | | | | | | | | | | |
| 2 | .52 | | | 17¼ | .51 | | | 15¼ | .51½ | | | 15 | .51 | | | 15 | .51 | | | 15½ | .50½ | | | 15 |
| 3 | .50 | | | 17 | .50 | | | 15¼ | .49 | | | 15 | .48 | | | 15 | .48 | | | 15¼ | .47½ | | | 14¾ |
| 4 | .48 | | | — | — | | | — | | | | | | | | | | | | | | | | |
| 5 | .47 | | | 16¼ | .47 | | | 15½ | .45½ | | | 14¾ | .45 | | | 14¾ | .46 | | | 15 | .45 | | | 14¼ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.85 | | | | 15.56 | | | | 14.91 | | | | 14.75 | | | | 15¼ | | | | 14.67 |
| % | | | | 99.1 | | | | 91.5 | | | | 87.7 | | | | 86.8 | | | | 89.7 | | | | 86.5 |

| LFH | 7.20 p.m. 8/25/96 | | | | 10.20 p.m. 8.26.96 | | | | 10 p.m. 8.28.96 | | | | 9.20 p.m. 9.1.96 | | | | 10.40 a.m. 9.4.96 | | | | 10 a.m. 9.8.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 32 | | | | 60.05 | | | | 85.05 C | | | | 117.15 | | | | 135.35 | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 22 | .49 | | | 20 3/4 | .49 | | | 20 1/4 | .48 | | | 19 1/2 | .47 1/2 | | | 18 3/4 | .47 | | | 17 |
| 2 | .52 | | | 21 1/4 | .53 1/2 | | | 20 3/4 | .53 1/2 | | | 20 | .52 1/2 | | | 19 | .52 | | | 18 | .51 | | | 17 |
| 3 | .50 | | | 20 3/4 | .50 1/2 | | | 19 1/2 | .51 | | | 20 1/4 | .50 | | | 19 1/4 | .50 | | | 18 1/2 | .49 1/2 | | | 18 |
| 4 | .50 | | | 22 | .50 | | | 20 | .50 1/2 | | | 20 1/4 | .50 | | | 19 | .50 | | | 17 3/4 | .48 | | | 17 1/2 |
| 5 | .48 | | | 22 | .47 1/2 | | | 19 1/4 | .48 | | | 18 1/2 | .48 | | | 17 1/4 | .47 1/2 | | | 16 1/4 | .47 | | | 16 1/2 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21.6 | | | | 20.05 | | | | 19.95 | | | | 18.9 | | | | 17.85 | | | | 17.2 |
| % | | | | 127 | !!! | | | 118 | | | | 117.4 | | | | 111.2 | | | | 105 | | | | 101 |

ORDER No. 88 P. J. G.

At 34½ Candles. Test Started 11.40 a.m. 8.24.96 At 16 Candles.

Platinum loop treated Exhausted on Stem: Pump R.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 117 | .57½ | 5.35 p.m. 8.26.96 | 27.15 | 2 | | 102 | .50 |
| 2 | 116 | .59 | 7.30 p.m. 8.26.96 | 29.10 | 3 | | 101 | .52 |
| 3 | 120 | .55 | 6.55 p.m. 8.25.96 | 19.35 | 1 | | 104 | .48 |
| 4 | 117½ | .57½ | 10.50 a.m. 8.27.96 | 36.10 | 4 | | 101 | .50 |
| 5 | 119½ | .57 | 5.00 p.m. 8.27.96 | 41.20 | 5 | | 103½ | .49 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 118 | .572 | | 30.42 | | | 102.3 | .498 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 234 |
| At 34½ Candles. | 381 |

ORDER No. 89 P. J. H.

At 17 Candles. Test Started 11.40 a.m. 8.24.96 At 16 Candles.

Stirrup loop treated - Exhausted on Stem: Pump R.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107 | .47½ | 4.05 p.m. 9.15.96 | 203.40 | 2 | | 105½ | .47 |
| 2 | 103 | .51 | Taken down 10.25.1.46 | 379.50 | | | 101½ | [illegible] |
| 3 | 105 | .50 | 1.15 p.m. 9.30.96 | 352.05 | 3 | | 103 | .49 |
| 4 | 106 | .50 | 3.30 p.m. 9.10.96 | 166.20 | 1 | | 104½ | .49 |
| 5 | 106¼ | .47½ | 4.15 p.m. 10.1.96 | 368.35 | 4 | | 103 | .45 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105.45 | .492 | | 294.06 | | | 103.4 | .48 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 240 |
| At 17 Candles. | 245 |

| Date | 9.20pm. 8.26.96 | | | | 10pm. 8.28.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hour | 20 | | | | 49.05 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .66½ | | | 26½ | .62½ | | | 19 | | | | | | | | | | | | | | | | |
| 2 | .60 | | | 18 | .62½ | | | 18½ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23½ | | | | 18½ | | | | | | | | | | | | | | | | |
| % | | | | 73.5 | | | | 57.5 | | | | | | | | | | | | | | | | |

| Date | 10.20pm. 8.28.96 | | | | 9.30pm. 9.1.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hour | 28.25 | | | | 54.25 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .55 | | | 24½ | .58 | | | 23 | | | | | | | | | | | | | | | | |
| 2 | .52 | | | 29½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 28 | | | | 23 | | | | | | | | | | | | | | | | |
| % | | | | 88.9 | | | | 73 | | | | | | | | | | | | | | | | |

ORDER No. 90 Ed. Special #1 3

At 31½ Candles. Test Started 11.20 a.m. 8.25.96 At 16 Candles.

Ploop. unbreakable

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | 99¼ | .65 | | 62.25 | 1 | 88½ | .55 |
| 2 | 96 | .65 | | 62.25 | | 86½ | .55 |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 97.6 | .65 | | 62.25 | | 87.5 | .55 |

Taken down

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At 31½ Candles. | 371 |

Taken down 8.20 a.m. 9/4/96.

ORDER No. 91 Sl. F. L.

At 31½ Candles. Test Started 10 a.m. 8.26.96 At 16 Candles.

Oval Spirit. Chem: Exhaust

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|
| 1 | 114 | .55 | 8.35 p.m. 9.3.96 | 79.30 | 2 | 100 | 48 |
| 2 | 115 | .53 | 2.25 p.m. 8.29.96 | 34.20 | 1 | 101½ | 47 |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 114½ | .54 | | 56.55 | | 100¾ | .475 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 249 |
| At 31½ Candles. | 380 |

Put away in box

| #92 Sec. 1½ 1000 L. | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | | 8.30 p.m. 9.21.96 | | | | 8.30 p.m. 9.22.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 181 | | | | 200.40 | | | | 228.05 | | | | 254.35 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .46 | | | 12½ | .45 | | | 13 | .40 | | | 11¼ | .40 | | | 11¼ | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 12½ | | | | 13 | | | | 11¼ | | | | 11¼ | | | | | | | | |
| % | | | | 41.9 | | | | 44.9 | | | | 38.5 | | | | 38.5 | | | | | | | | |

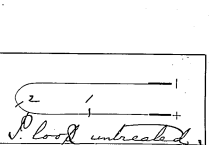
| #93 Sec. 1½ 1000 L. | 10.40 a.m. 9.1.96 | | | | 8.30 p.m. 9.2.96 | | | | 10.40 a.m. 9.4.96 | | | | 9 a.m. 9.8.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 41.25 | | | | 63.15 | | | | 82.25 | | | | 100.45 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .63 | | | 22½ | — | | | — | — | | | — | — | | | — | — | | | | | | | |
| 2 | .64 | | | 22 | .63 | | | 19½ | .63 | | | 18½ | — | | | — | — | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | .64 | | | 25 | .63½ | | | 22¾ | .63½ | | | 21¾ | .62 | | | 20 | — | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23.7 | | | | 21.12 | | | | 20.12 | | | | 20 | | | | | | | | |
| % | | | | 85.8 | | | | 78.2 | | | | 74.8 | | | | 74.1 | | | | | | | | |

| Date | 10.40am. 9.1.96 | | | | 8.30pm. 9.2.96 | | | | 10.40am. 9.4.96 | | | | 10am. 9.8.96 | | | | 7.45pm. 9.9.96 | | | | 10am. 9.12.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stage | 41.45 | | | | 63.35 | | | | 82.45 | | | | 101.05 | | | | 123.20 | | | | 145.35 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 20¾ | .49 | | | 17¼ | .48 | | | 15½ | .47 | | | 15½ | .48 | | | 13¾ | .46½ | | | 12¾ |
| 2 | .50 | | | 20¾ | .49 | | | 17¼ | .48 | | | 15½ | .47 | | | 15 | .47 | | | 13 | .46½ | | | 12¾ |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20¾ | | | | 17¼ | | | | 15½ | | | | 15¼ | | | | 13.63 | | | | 12¾ |
| % | | | | 70.9 | | | | 59 | | | | 53 | | | | 52.1 | | | | 46.6 | | | | 43.1 |

ORDER No. 92 Edison Spec #14

At 29¼ Candles. Test Started 9.10 p.m. 8.27.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113 | .50 | 4.30 a.m. 9.24.96 | 264.05 | | | 102½ | .45 |
| 2 | 113 | .50 | 3 p.m. 9.14.96 | 154.05 | 1 | | 102½ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113 | .50 | | 209.05 | | | 102½ | .45 |




S. loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 386 |

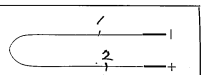
Put away in box

ORDER No. 93 Edison #43B

Formerly #38 38

At 27 Candles. Test Started 9.30 p.m. 8.27.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 123½ | .65 | 7.55 p.m. 9.2.96 | 62.40 | 1 | | 112 | .58 |
| 2 | 124 | .67 | 11.40 a.m. 9.4.96 | 83.25 | 2 | | 113 | .60 |
| 3 | | | | | | | 117¾ | .62 |
| 4 | | | | | | | 117¾ | .55 |
| 5 | 123 | .65 | 3 p.m. 9.9.96 | 118.15 | 3 | | 112 | .58 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 123½ | .657 | | 88.07 | | | 114.4 | .586 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 178 |
| At 27 Candles. | 248 |

Put away in box

94
Lp II
1000 L. 26.10 9.30pm. 9.1.96 9pm 1

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .60 | | | 19½ | | | | | | | | | | | | | | | | | | | | |
| 2 | .50 | | | 19¾ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 68.4 | | | | | | | | | | | | | | | | | | | | |

LP II
1000 L.

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 440.30 | | | | 490.30 | | | | 550 | | | | | | | | | | | | | | | |
| | 8.30pm. 10.14.96 | | | | 8.15pm. 10.20.96 | | | | 9pm 10.26.96 | | | | | | | | | | | | | | | |
| 1 | .40 | | | 12½ | .41 | | | 11¾ | .41 | | | 12 | | | | | | | | | | | | |
| 2 | .40 | | | 11¾ | .40 | | | 11 | .40 | | | 10¾ | | | | | | | | | | | | |
| 3 | – | | | – | – | | | – | – | | | – | | | | | | | | | | | | |
| 4 | .40 | | | 11¾ | .40½ | | | 11½ | .40 | | | 11½ | | | | | | | | | | | | |
| 5 | .38 | | | 10¾ | .38¾ | | | 10½ | .38 | | | 10¾ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.56 | | | | 11.12 | | | | 11½ | | | | | | | | | | | | |
| % | | | | 72.3 | | | | 69.5 | | | | 70.3 | | | | | | | | | | | | |

| 95 I.F.E. | 8.35 p.m. 9.17.96 176 | | | | 8.30 p.m. 9.21.96 203 | | | | 8.30 p.m. 9.23.96 229.30 | | | | 8.30 p.m. 10.2.96 327 | | | | 8.15 p.m. 10.6.96 360.15 | | | | 9 p.m. 10.9.96 396.15 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .42 | | | 15½ | .42 | | | 14½ | .42 | | | 14 | .41½ | | 89.1 | 14½ | .41 | | | 13½ | .40½ | | | 13½ |
| 2 | .41 | | | 14½ | .41 | | | 14½ | .41 | | | 13½ | .40 | | 86.4 | 13½ | .40 | | | 12 | .40 | | | 11½ |
| 3 | .41 | | | 15½ | .41 | | | 14 | .40½ | | | 14 | .40 | | 82.8 | 13½ | .40 | | | 12½ | .40 | | | 12½ |
| 4 | .41½ | | | 14½ | .41½ | | | 14½ | .41 | | | 14 | .40½ | | 81.2 | 13 | .40 | | | 13 | .40 | | | 12½ |
| 5 | .40 | | | 14½ | .40 | | | 13½ | .40 | | | 13 | .40 | | 78.1 | 12½ | .40 | | | 12 | .39 | | | 11½ |
| 6 | | | | | | | | | | | | | | | Σ=1415.6 | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | 82.1 | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 14.86 | | | | 14.15 | | | | 13.7 | | | | 13.3 | | | | 12.5 | | | | 12.3 |
| % | | | | 92.8 | | | | 88.4 | | | | 85.6 | | | | 83.1 | | | | 78.1 | | | | 76.9 |

| #75 L.T.I= | 9.30 p.m. 9.1.96 | | | | 10.30 a.m. 9.4.96 | | | | 8.30 p.m. 9.8.96 | | | | 2.05 p.m. 9.10.96 | | | | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 26.30 | | | | 57.30 | | | | 85.30 | | | | 105.20 | | | | 120.30 | | | | 156 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V. | C.P. |
| 1 | .43 | | | 16 | .43 | | | 16½ | .43 | | | 15½ | .43 | | | 15½ | .43 | | | 16 | .42½ | | | 14¾ |
| 2 | .43 | | | 16 | .42½ | | | 15½ | .43 | | | 14½ | .43 | | | 15½ | .43 | | | 15½ | .42 | | | 14 |
| 3 | .43 | | | 17 | .43 | | | 17 | .43 | | | 14½ | .43 | | | 15½ | .42½ | | | 16 | .42 | | | 13½ |
| 4 | .42½ | | | 16½ | .42½ | | | 16½ | .43 | | | 15½ | .43 | | | 15½ | .42½ | | | 16 | .42 | | | 14½ |
| 5 | .42 | | | 16½ | .41½ | | | 14½ | .42 | | | 14½ | .41 | | | 15 | .41½ | | | 16½ | .40 | | | 14½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.3 | | | | 16 | | | | 15.05 | | | | 15.35 | | | | 16.05 | | | | 14.25 |
| % | | | | 101.9 | | | | 100 | | | | 94.1 | | | | 95.9 | | | | 100 | | | | 89.1 |

ORDER No. 94. Ed. Spec. #15

At 28½ Candles. Test Started 9.50 p.m. 8.28.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110½ | .51 | | | | | 100½ | .45 |
| 2 | 110½ | .51 | | | | | 100½ | .45 |
| 3 | | | Fallen down 10.40 p.m. 9.1.96 | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.5 | .51 | | 29.20 | | | 100.5 | .51 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 379 |

ORDER No. 95. P. J. J.

At Candles. Test Started 9.30 p.m. 8.28.96 At 16 Candles.

2.99 Watts

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | Fallen down | | 11.30 p.m. 11.9.96 | 671.45 | | | 112 | .43⅓ |
| 2 | d | | 11.30 p.m. 11.9.96 | 671.45 | | | 112½ | .43⅓ |
| 3 | | | 5.25 p.m. 10.14.96 | 436.55 | 1 | | 112 | .43 |
| 4 | Fallen down | | 11.30 p.m. 11.7.96 | 671.45 | | | 111½ | .42 |
| 5 | | | 8.10 a.m. 10.25.96 | 575.55 | 2 | | 113 | .41 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 112.2 | .426 |

P. Oral treated Carbons Chemical Reduct

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 250 |
| At Candles. | |

| *% 132 | 8 a.m. 9.21.96 | | | | 8.30 p.m. 9.21.96 | | | | 8.30 p.m. 9.23.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L | 139 | | | | 149.30 | | | | 176 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | $27\frac{1}{2}$ | | | $8\frac{1}{2}$ | $27\frac{1}{2}$ | | | 8 | $27\frac{1}{2}$ | | | $7\frac{3}{4}$ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | $8\frac{1}{2}$ | | | | 8 | | | | $7\frac{3}{4}$ | | | | | | | | | | | | |
| % | | | | 50 | | | | 47.1 | | | | 48.6 | | | | | | | | | | | | |

| 97 | 8.30 p.m. 9.23.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 186 | 176 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 38 | | | $9\frac{1}{2}$ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | $9\frac{1}{2}$ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 38 | | | | | | | | | | | | | | | | | | | | |

| Date | 11.30 a.m. 9.5.96 | | | | 3.30 p.m. 9.8.96 | | | | 2.05 p.m. 9.10.96 | | | | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #132 | 18 | | | | 32 | | | | 51.50 | | | | 67 | | | | 102½ | | | | 122.05 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .30 | | | 14 | | | | | | | | | | | | | | | | | | | | |
| 2 | .30 | | | 13½ | .30 | | | 11½ | .29 | | | 10½ | .29 | | | 9 | .28 | | | 9 | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | .30½ | | | 13½ | .30 | | | 11 | .29 | | | 10½ | .30 | | | 9½ | .28 | | | 8½ | .28 | | | 8¼ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.7 | | | | 11¼ | | | | 10½ | | | | 9¼ | | | | 8¾ | | | | 8¼ |
| x | | | | 80.6 | | | | 66.2 | | | | 61.8 | | | | 54.4 | | | | 51.5 | | | | 48.05 |

| Date | 10 a.m. 9.8.96 | | | | 7.45 p.m. 9.9.96 | | | | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | | 8.30 p.m. 9.21.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #136 | 22.30 | | | | 44.45 | | | | 67 | | | | 102½ | | | | 122.05 | | | | 149.30 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C. |
| 1 | | | | — | | | | — | | | | — | | | | — | | | | — | | | | — |
| 2 | .41 | | | 17¾ | .40 | | | 15½ | .39 | | | 14 | .38 | | | 11½ | — | | | — | — | | | — |
| 3 | .41 | | | 18 | .40 | | | 15 | .40 | | | 14½ | .38 | | | 12 | — | | | — | — | | | — |
| 4 | .41½ | | | 18 | .40 | | | 14 | .40 | | | 14 | .39 | | | 11½ | .38 | | | 12 | — | | | — |
| 5 | .41 | | | 18 | .40½ | | | 14 | .40 | | | 13¾ | .39 | | | 11½ | .38 | | | 11 | .37½ | | | 10 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17.94 | | | | 14.62 | | | | 14.06 | | | | 11.69 | | | | 11.5 | | | | 10 |
| x | | | | 71.8 | | | | 58.5 | | | | 56.2 | | | | 46.7 | | | | 46 | | | | 41 |

ORDER No. #96 Ed. #132

At 17 Candles. Test Started 10.30 pm. 9.3.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 104⅓ | .33 | 2.40 pm. 9.8.96 | 26.10 | 3 | 103 | .33 |
| 2 | 103½ | .35½ | 11.50 am. 9.17.96 | 114.20 | 4 | 102 | .33 |
| 3 | 103 | .32½ | 11.35 am. 9.4.96 | 5.05 | 1 | 102 | .32 |
| 4 | 104 | .32½ | 11.40 am. 9.4.96 | 5.10 | 2 | 102 | .32 |
| 5 | 105 | .33⅓ | 7.20 pm. 9.24.96 | 188.20 | 5 | 102½ | .32½ |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 104 | .334 | | 67.49 | | 102.3 | .32⅓ |




P. loop untreated

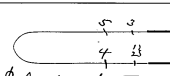
| | Candles per H. P. |
|---|---|
| At 16 Candles. | 360 |
| At 17 Candles. | 365 |

#1 Taken by Mr Edison

ORDER No. 97 Edison #136

At 25 Candles. Test Started 10.30 pm. 9.3.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 112⅓ | .44 | 8.35 am. 9.8.96 | 21.05 | 1 | 105 | .40 |
| 2 | 113 | .44 | 7 pm. 9.16.96 | 106.30 | 2 | 104¼ | .40 |
| 3 | 113¼ | .45 | 8.50 am. 9.17.96 | 114.20 | 3 | 104 | .40 |
| 4 | 111 | .45 | 10.55 am. 9.18.96 | 125.55 | 4 | 103 | .40½ |
| 5 | 110½ | .44 | 10.30 am. 9.28.96 | 210.15 | 5 | 102¼ | .41 |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | ~~112.05~~ | ~~.444~~ | | | | | |
| Avg. | 112.05 | .444 | | 115.01 | | 103.7 | .403 |




P. loop untreated.

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 285 |
| At 25 Candles. | 375 |

Put away in box

| Date | 10 a.m. 9.8.96 | | | | 7.45 p.m. 9.9.96 | | | | 10 a.m. 9.12.96 | | | | 9.16.96 8.35 p.m. 9.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #144 | 22.30 | | | | 44.45 | | | | 67 | | | | 102½ | | | | 122.05 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .43 | | | 17¼ | .43 | | | 15½ | .41½ | | | 14½ | .46 | | | 12 | .39 | | | 11¾ | | | | |
| 2 | .43 | | | 17½ | .42 | | | 14¾ | .41 | | | 13½ | .40 | | | 11¼ | .38 | | | 11½ | | | | |
| 3 | .43½ | | | 18 | .42½ | | | 15 | .41½ | | | 14. | | | | | | | | | | | | |
| 4 | — | | | | — | | | | | | | | | | | | | | | | | | | |
| 5 | .43 | | | 17 | — | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17.44 | | | | 15.08 | | | | 14 | | | | 11.62 | | | | 11.62 | | | | |
| % | | | | 69.8 | | | | 60.3 | | | | 56 | | | | 46.5 | | | | 46.5 | | | | |

| Date | 2.05 p.m. 9.10.96 | | | | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | | 8.30 p.m. 9.21.96 | | | | 8.30 p.m. 9.23.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| #8 | 120.05 | | | | 36.15 | | | | 70¾ | | | | 90.20 | | | | 117.45 | | | | 144 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 22¾ | .50 | | | 19 | — | | | — | | | | | | | | | | | | |
| 2 | .50 | | | 21½ | .48 | | | 17½ | .47 | | | 15¼ | .46½ | | | 14¾ | .45 | | | 12¾ | .45 | | | 12½ |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22½ | | | | 18¼ | | | | 15¼ | | | | 14¾ | | | | 12¾ | | | | 12½ |
| % | | | | 75 | | | | 61.9 | | | | 51.7 | | | | 50 | | | | 43.2 | | | | 42.4 |

ORDER No. 98 Edison #144

At 25 Candles. Test Started 10.30 p.m. 9.3.96

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108½ | .46 | 4.30 p.m. 9.18.96 | 130.30 | 4 | | 100 | .41 |
| 2 | 109½ | .46½ | 4.55 p.m. 9.18.96 | 130.55 | 5 | | 100½ | .41 |
| 3 | 110 | .47 | 7.15 a.m. 9.15.96 | 82.45 | 3 | | 101 | .41 |
| 4 | 111 | .47½ | 8.40 a.m. 9.8.96 | 21.10 | 1 | | 101½ | .42 |
| 5 | 111½ | .48 | 7.55 p.m. 9.7.96 | 44.25 | 2 | | 102½ | .42 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.1 | .47 | | 81.57 | | | 101.1 | .414 |

Letter from Grace by Lady

Put away in box

P. loop untreated.

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 285 |
| At 25 Candles. | 360 |

ORDER No. 99 Edison Special #116

At 29½ Candles. Test Started 8.45 p.m. 9.8.96

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 | .51 | 10.55 a.m. 9.14.96 | 40.40 | 1 | | 103 | .45 |
| 2 | 114½ | .51 | 8.15 p.m. 9.30.96 | 214.15 | 2 | | 103½ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114¼ | .51 | | 127.27½ | | | 103¼ | .45 |

Put away in box

P. loop untreated.

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 257 |
| At 29½ Candles. | 378 |

| 100 Spec. 7/8 100 | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | | 8.30 p.m. 9.21.96 | | | | 8.30 p.m. 9.23.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 21.45 | | | | 57.15 | | | | 76.50 | | | | 104.15 | | | | 130.45 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 20 1/2 | .49 | | | 16 1/2 | .47 | | | 14 3/4 | .47 | | | 13 | .47 | | | 13 1/2 | | | | |
| 2 | .50 | | | 20 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20 1/4 | | | | 16 1/2 | | | | 14 3/4 | | | | 13 | | | | 13 1/2 | | | | |
| % | | | | 70.4 | | | | 57.4 | | | | 51.3 | | | | 45.2 | | | | 46.9 | | | | |

| 70 Spec. 7/8 | 10 a.m. 9.12.96 | | | | 2 p.m. 9.16.96 | | | | 8.35 p.m. 9.17.96 | | | | 8.30 p.m. 9.21.96 | | | | 8.30 p.m. 9.23.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14.30 | | | | 50 | | | | 69.35 | | | | 97 | | | | 123.30 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 1/2 | | | 24 3/4 | .49 | | | 16 1/4 | .48 | | | 16 1/4 | .47 | | | 14 | .47 | | | 13 1/4 | | | | |
| 2 | .51 | | | 24 1/4 | — | | | — | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24 1/4 | | | | 16 1/4 | | | | 16 1/4 | | | | 14 | | | | 13 1/4 | | | | |
| % | | | | 84.6 | | | | 55.6 | | | | 55.6 | | | | 47.8 | | | | 45.3 | | | | |

ORDER No. 100 Edison Special #7

At $28\frac{3}{4}$ Candles. Test Started 8.45 p.m. 9.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $111\frac{1}{4}$ | $.52\frac{1}{2}$ | 6.05 p.m. 9.24.96 | 141.50 | 2 | | $101\frac{1}{4}$ | .45 |
| 2 | $111\frac{1}{2}$ | .52 | 5.05 p.m. 9.14.96 | 32.20 | 1 | | $101\frac{1}{4}$ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.38 | $.52\frac{1}{4}$ | | 87.05 | | | $101\frac{1}{4}$ | .45 |

Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At $28\frac{3}{4}$ Candles. | 368 |

Put away in box

ORDER No. 101 Edison Special #8

At $29\frac{1}{4}$ Candles. Test Started 2.45 p.m. 9.10.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $112\frac{3}{4}$ | .52 | 6.30 p.m. 9.30.96 | 191.45 | 2 | | $102\frac{1}{4}$ | .46 |
| 2 | 112 | .52 | 1.20 p.m. 9.15.96 | 35.20 | 1 | | $100\frac{3}{4}$ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.38 | .52 | | 113.32½ | | | $102\frac{1}{2}$ | $.45\frac{1}{2}$ |

Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At $29\frac{1}{4}$ Candles. | 374 |

Put away in box

| #102 Apr. 19 | 2 pm. 9.16.96 | | | | 8.35 pm. 9.17.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 34.05 | | | | 53.40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 18½ | .49 | | | 17½ | — | | | — | | | | | | | | | | | | |
| 2 | .48 | | | 18½ | .47 | | | 16½ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 18½ | | | | 17 | | | | | | | | | | | | | | | | |
| % | | | | 60.7 | | | | 55.7 | | | | | | | | | | | | | | | | |

| 103 Sept. 18 1900 | 2 pm. 9.16.96 | | | | 8.35 pm. 9.17.96 | | | | 8.30 pm. 9.21.96 | | | | 8.30 pm. 9.23.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 27 | | | | 46.35 | | | | 74 | | | | 100.30 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | — | | | — | | | | | | | | | | | | | | | | | | | | |
| 2 | .50 | | | 21½ | .49 | | | 22 | .48 | | | 16 | .47½ | | | 15 | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21½ | | | | 22 | | | | 16 | | | | 15 | | | | | | | | |
| % | | | | 77 | | | | 74.6 | | | | 54.2 | | | | 50.8 | | | | | | | | |

ORDER No. 102 Spec. #19

At 30½ Candles. Test Started 11.25 a.m. 9.12.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .54 | 2.50 p.m. 9.18.96 | 60.25 | 1 | | 101 | .47 |
| 2 | 115 | .52 | 4.10 p.m. 9.21.96 | 77.45 | 2 | | 104 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112½ | .53 | | 69.05 | | | 102½ | .46 |

1 2 —|— —|— —+

Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At 30½ Candles. | 381 |

Put away in box

ORDER No. 103 Special 1 10

At 29½ Candles. Test Started 3 p.m. Sept. 14-96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115 | .52 | 6.40 p.m. 9.15.96 | 17.40 | 1 | | 103½ | .45 |
| 2 | 112 | .53 | 7.30 p.m. 9.30.96 | 70.45 | 2 | | 102 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113½ | .52⅓ | | 94.12½ | | | 102¾ | .45 |

2 1 —|— —|— —+

Loop untreated

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 369 |

Put away in box

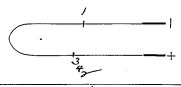
164B 2.30pm. 10.5.96 — 22.45 | 8.15pm. 10.6.96 — 41.45

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .36 | | | 14 | .35 | | | 12½ | | | | — | | | | | | | | | | | | |
| 2 | .35 | | | 12¾ | .35 | | | 11¾ | | | | | | | | | | | | | | | | |
| 3 | .36 | | | 13¼ | .35 | | | 11¾ | | | | | | | | | | | | | | | | |
| 4 | .36 | | | 13 | .35 | | | 12 | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13¼ | | | | 11.87 | | | | | | | | | | | | | | | | |
| % | | | | 63.1 | | | | 56.5 | | | | | | | | | | | | | | | | |

167B 10 am. 10.3.96 — 20 | 8.15pm. 10.6.96 — 46

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .32½ | | | 13 | .32 | | | 11¾ | — | | | — | | | | | | | | | | | | |
| 2 | .32½ | | | 13 | .31 | | | 10¾ | — | | | — | | | | | | | | | | | | |
| 3 | .32½ | | 66.4 | 13½ | .31 | | | 11 | — | | | — | | | | | | | | | | | | |
| 4 | .33 | | | 12½ | .30 | | | 11 | — | | | — | | | | | | | | | | | | |
| 5 | .32 | | | 12½ | .30 | | | 10 | — | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | 10¾ | | | | | | | | | | | | | | | |
| 10 | | | | 12.95 | | | | 62.9 | | | | | | | | | | | | | | | | |
| Ave. | | | | 66.4 | | | | | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

ORDER No. 104 Ed. 164B

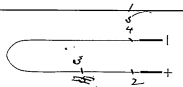



| At 21 Candles. | | | Test Started 10.45a.m. 10/2/96 | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
| 1 | 106¾ | .38 | 5.55p.m. 11.27.96 | 523.55 | 4 | | 101½ | .37 |
| 2 | 106 | .38½ | 1.10p.m. 11.12.96 | 384.25 | 3 | | 101¼ | .37 |
| 3 | 108 | .39 | 9.50a.m. 11.2.96 | 288.35 | 1 | | 102¼ | .37 |
| 4 | 108 | .39 | 5.40p.m. 11.5.96 | 347.55 | 2 | | 102¼ | .37 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.19 | .386 | | 386.12 | | | 101.81 | .37 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 317 |
| At 21 Candles. | 379 |

Sub away in box

ORDER No. 105 Ed. #167B




| At 20⅓ Candles. | | | Test Started 6.30p.m. 10.1.96 | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
| 1 | 111½ | .36 | 4.05p.m. 10.5.96 | 78.05 | 3 | | 107 | .34½ |
| 2 | 111 | .36 | 12.45p.m. 10.10.96 | 88.45 | 4 | | 108 | .34½ |
| 3 | 111¼ | .36 | 1.50p.m. 10.12.96 | 95.20 | 5 | | 108 | .34 |
| 4 | 112 | .36 | 9.25p.m. 10.7.96 | 59.10 | 1 | | 107½ | .34 |
| 5 | 109½ | .36 | 8.45a.m. 10.5.96 | 71.45 | 2 | | 105¾ | .34½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.05 | .36 | | 78.37 | | | 107¼ | .343 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 324 |
| At 20⅓ Candles. | 379 |

Sub away in box

167 1000 L. 10 a.m. 10.3.96 — 20 | 8.15 p.m. 10.6.96 — 46

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .32 | | | 12 2/4 | .30 | | | 10 2/4 | | | | | | | | | | | | | | | | |
| 2 | .32 | | 71.8 | 12 2/4 | .30 | | | 10 2/4 | | | | | | | | | | | | | | | | |
| 3 | .31 | | | 12 | .30 | | | 10 | | | | | | | | | | | | | | | | |
| 4 | .32 | | | 11 3/4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 12 2/4 | | | | 10.33 | | | | | | | | | | | | | | | | |
| % | | | | 69 | | | | 58.2 | | | | | | | | | | | | | | | | |

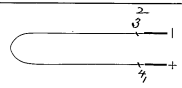
167B 1000 L. 10 a.m. 10.3.96 — 20 | 8.15 p.m. 10.6.96 — 46

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .38 | | | 13 1/2 | .37 | | | 10 1/4 | — | | | — | | | | | | | | | | | | |
| 2 | .38 | | | 13 1/2 | .36 | | | 10 1/4 | | | | | | | | | | | | | | | | |
| 3 | .34 | | | 12 3/4 | .32 | | | 10 1/4 | — | | | — | | | | | | | | | | | | |
| 4 | .38 | | 67.8 | 13 1/2 | .37 | | | 10 1/4 | — | | | — | | | | | | | | | | | | |
| 5 | .34 | | | 12 1/2 | .32 1/2 | | | 10 1/4 | — | | | — | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.05 | | | | 10.25 | | | | | | | | | | | | | | | | |
| % | | | | 66.1 | | | | 53.9 | | | | | | | | | | | | | | | | |

ORDER No. 106 Ed. # 167 T

At 17 3/4 Candles. Test Started 6.30 p.m. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107 1/2 | .35 | 9.05 a.m. 10.9.96 | 72.55 | 2 | | 105 1/2 | .34 |
| 2 | 105 1/4 | .34 | 8.50 a.m. 10.12.96 | 91.20 | 3 | | 103 1/2 | .33 |
| 3 | 106 3/4 | .34 | 8.20 a.m. 10.13.96 | 98.40 | 4 | | 104 3/4 | .33 |
| 4 | 106 1/2 | .34 1/2 | 11 a.m. 10.6.96 | 38.30 | 1 | | 104 3/4 | .34 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106 1/2 | .34375 | | 59.53 | | | 104.62 | .335 |

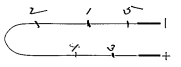



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 351 |
| At 17 3/4 Candles. | 362 |

ORDER No. 107 Ed. # 167 1/2 B

At 19 3/4 Candles. Test Started 6.30 p.m. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 97 3/4 | .40 1/2 | 10.20 a.m. 12.31.96 | 735.55 | 4 | | 94 3/4 | .39 |
| 2 | 98 | .40 | 6.05 p.m. 12.31.96 | 828.55 | 5 | | 95 1/2 | .38 |
| 3 | 106 | .36 | 10.15 a.m. 10.23.96 | 210.15 | 2 | | 102 | .35 |
| 4 | 100 1/4 | .40 | 10.45 a.m. 10.29.96 | 264.15 | 3 | | 96 1/2 | .38 |
| 5 | 107 1/4 | .35 | 11.45 a.m. 10.17.96 | 160.15 | 1 | | 103 1/2 | .34 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 101.85 | .383 | | 439.55 | | | 98.46 | 36.8 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 329 |
| At 19 3/4 Candles. | 377 |

| 167 | 10am. 10.3.56 | | | | 8.15pm. 10.6.56 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 160 L | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .37 | | | 8 | ~~.33~~ | | | — | — | | | — | | | | | | | | | | | | |
| 2 | .34 | | | 12½ | .33 | | | 10 | — | | | — | | | | | | | | | | | | |
| 3 | .40 | | 6g | 14½ | .40 | | | 11 | | | | | | | | | | | | | | | | |
| 4 | .37 | | | 8½ | .35 | | | 7 | | | | | | | | | | | | | | | | |
| 5 | .34½ | | | 12½ | .33½ | | | 11½ | — | | | — | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.2 | | | | 9.81 | | | | | | | | | | | | | | | | |
| % | | | | 82.3 | | | | 46.7 | | | | | | | | | | | | | | | | |

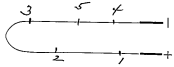
Swaney

| 169B | 10am. 10.5.56 | | | | 8.15pm. 10.6.56 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .40 | | | 14 | .40 | | | 11¾ | | | | | | | | | | | | | | | | |
| 2 | .40 | | | 14½ | .40 | | | 12½ | | | | | | | | | | | | | | | | |
| 3 | .40 | | | 14½ | .40 | | | 12¾ | | | | | | | | | | | | | | | | |
| 4 | .40 | | | 14½ | .40 | | | 12¾ | | | | | | | | | | | | | | | | |
| 5 | .40½ | | 6g.v | 15 | .40 | | | 12 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14½ | | | | 12.15 | | | | | | | | | | | | | | | | |
| % | | | | 67.4 | | | | 56.1 | | | | | | | | | | | | | | | | |

ORDER No. 108 Ed. #167½ T

At 21 Candles. Test Started 6.30 pm. 10.2.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 97 | .44 | 3.55 pm. 10.5.96 | 28.25 | 1 | | 92½ | .41½ |
| 2 | 108¼ | .37 | 8.40 am. 10.10.96 | 84.40 | 2 | | 103½ | .35 |
| 3 | 97½ | .44 | 1.55 pm. 11.24.96 | 494.— | 5 | | 93¼ | .41½ |
| 4 | 97 | .44 | 3 pm. 10.26.96 | 231.30 | 4 | | 93 | .41 |
| 5 | 109 | .37 | 4.50 pm. 10.21.96 | 187.50 | 3 | | 103½ | .35 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 101¾ | .412 | | 205.25 | | | 97.15 | .388 |



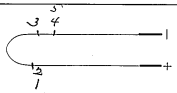

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 317 |
| At 21 Candles. | 374 |

Swanson Wm

ORDER No. 109 Ed. #169 B

At 21⅔ Candles. Test Started 6.30 pm. 10.1.96 At 16 Candles.

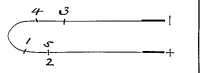
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 99 | .44 | 10.20 am. 11.16.96 | 416.50 | 5 | | 94½ | .40 |
| 2 | 102 | .43 | 5.30 pm. 11.11.96 | 379.45 | 4 | | 96¼ | .40 |
| 3 | 100 | .44 | 9.05 am. 11.5.96 | 314.05 | 1 | | 95½ | .40 |
| 4 | 100½ | .44 | 2.45 pm. 11.6.96 | 331.45 | 2 | | 95 | .40 |
| 5 | 100 | .43 | 9.15 am. 11.9.96 | 356.15 | 3 | | 95 | .40½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 101.3 | .436 | | 359.44 | | | 95¼ | .401 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 312 |
| At 21⅔ Candles. | 366 |

| | 10 a.m. 10-8-96 | | | | 8.15 p.m. 10.6.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 169 | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .38 | | | $14\frac{2}{7}$ | .37 | | | $12\frac{2}{7}$ | — | | | — | | | | | | | | | | | | |
| 2 | .36 | | | $14\frac{2}{7}$ | .35 | | | $11\frac{5}{7}$ | — | | | — | | | | | | | | | | | | |
| 3 | .38 | | 43 | $15\frac{2}{7}$ | .37½ | | | 13 | — | | | — | | | | | | | | | | | | |
| 4 | .35½ | | | $14\frac{2}{7}$ | .35 | | | $11\frac{3}{7}$ | — | | | — | | | | | | | | | | | | |
| 5 | .38 | | | $14\frac{3}{7}$ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | $14\frac{3}{7}$ | | | | 12.06 | | | | | | | | | | | | | | | | |
| % | | | | 67 | | | | 54.8 | | | | | | | | | | | | | | | | |

ORDER No. 110 Ed. 169 T



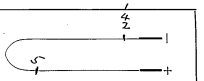

At 22 Candles. Test Started 6.30 pm. 10.1.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111½ | .41 | 4.15pm. 10.9.96 | 78.15 | 5 | | 106 | .38 |
| 2 | 111 | .38 | 11.50am. 10.9.96 | 74.50 | 4 | | 105½ | .35 |
| 3 | 112¼ | .40 | 6pm. 10.7.96 | 56.– | 3 | | 105½ | .38 |
| 4 | 111 | .38 | 2.30pm. 10.7.96 | 52.30 | 2 | | 105¼ | .35 |
| 5 | 111 | .40 | 11.10am. 10.6.96 | 38.40 | 1 | | 104½ | .37½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.35 | .394 | | 60.03 | | | 105.35 | .367 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | .309 |
| At 22 Candles. | .374 |

Lubaway Wire

ORDER No. 111 Ed. #173 B




At 20¾ Candles. Test Started 6.30pm. 10.1.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .37 | 1.30pm. 10.2.96 | 9.00 | 2 | | 104¾ | .35 |
| 2 | 116½ | .37 | 3.30pm. 10.2.96 | 11.00 | 4 | | 110 | .35 |
| 3 | 110 | .37 | 8am. 10.2.96 | 4.30 | 1 | | 105½ | .35 |
| 4 | 109¾ | .37 | 3.20pm. 10.2.96 | 10.50 | 3 | | 105½ | .35 |
| 5 | 110¼ | .36 | 9.15pm. 10. | 16.15 | 5 | | 106½ | .35 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.2 | .369 | | 10.19 | | | 106.45 | .35 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | .320 |
| At 20¾ Candles. | .377 |

Lubaway Wire

Taken from box by Daly

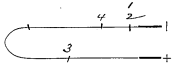
173[T]

| | 10am. 10.3.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .35 | | | 13½ | | | | | | | | | | | | | | | | | | | | |
| 2 | .35 | | | 18¾ | | | | | | | | | | | | | | | | | | | | |
| 3 | .35 | | 63.7 | 13¾ | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avs. | | | | 13.88 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 62.2 | | | | | | | | | | | | | | | | | | | | |

175[B]

| | 10am. 10.2.96 | | | | 8.15pm. 10.6.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .40 | | | 14 | .40 | | | 11¾ | | | | | | | | | | | | | | | | |
| 2 | .40 | | | 14½ | .40 | | | 11¾ | | | | | | | | | | | | | | | | |
| 3 | .40 | | 63.7 | 14¾ | .40 | | | 12¾ | | | | | | | | | | | | | | | | |
| 4 | .40 | | | 14½ | .40 | | | 11½ | | | | | | | | | | | | | | | | |
| 5 | .40 | | | 14 | .39 | | | 11½ | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avs. | | | | 14¼ | | | | 11¾ | | | | | | | | | | | | | | | | |
| % | | | | 67.1 | | | | 55.3 | | | | | | | | | | | | | | | | |

ORDER No. 112 Ed. #173 T



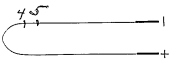

At 21½ Candles. Test Started 6.30 pm. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. Minutes. | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .38 | 8.30 am. 10.6.96 | 36 – | 5/4 | | 107 | .36 |
| 2 | 112 | .38 | 11.58 am. 10.5.96 | 25.28 | 3 | | 107 | .35 |
| 3 | 113 | .38 | 10.40 pm. 10.5.96 | 34.30 | 4 | | 108 | .35½ |
| 4 | 113 | .38 | 8 am. 10.3.96 | 18 – | 2 | | 108 | .35½ |
| 5 | 113¼ | .38 | 8.35 pm 10.1.96 | 2.05 | 1 | | 108 | .35 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.65 | .38 | | 23.20¾ | | | 107.6 | .354 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 313 |
| At 21½ Candles. | 375 |

(illegible) by Mr. (illegible)

ORDER No. 113 Ed. #175 B




At 21¼ Candles. Test Started 6.30 pm. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. Minutes. | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 99¾ | .44 | 2.30 pm 11.16.96 | 420 – | | | 94½ | .40 |
| 2 | 99 | .43 | " | 420 – | John dan | | 94¼ | .41 |
| 3 | 99¼ | .43 | " | 420 – | | | 94¼ | .40 |
| 4 | 99 | .43 | 5 pm. 10.29.96 | 269.30 | 1 | | 94 | .40 |
| 5 | 98½ | .43 | 9.20 pm 11.10.96 | 369 – | 2 | | 94¼ | .40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99.1 | .432 | | 37.47 | | | 94¼ | .402 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 315 |
| At 21¼ Candles. | 370 |

Put away in box

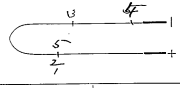
| | 10 a.m. 10.3.56 | | | | 8.15 p.m. 10.6.56 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 175 | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .42½ | | 68.5 | 15½ | .41 | | | 11½ | | | | | | | | | | | | | | | | |
| 2 | .42½ | | | 14¾ | .40½ | | | 11¾ | | | | | | | | | | | | | | | | |
| 3 | .42½ | | | 14½ | .41 | | | 11¾ | | | | | | | | | | | | | | | | |
| 4 | .41 | | | 13½ | .40½ | | | 11 | | | | | | | | | | | | | | | | |
| 5 | .42½ | | | 15 | .40 | | | 11¾ | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14.6 | | | | 11½ | | | | | | | | | | | | | | | | |
| % | | | | 65.6 | | | | 51.9 | | | | | | | | | | | | | | | | |

277

329

| | 10.3.56 | | | | 8.15 p.m. 10.6.56 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 140 | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A. | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | .56 | | | 18½ | .54 | | | 14¾ | | | | | | | | | | | | | | | | |
| 4 | .56 | | | 17¾ | .54½ | | | 14¾ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.12 | | | | 14½ | | | | | | | | | | | | | | | | |
| % | | | | 67.7 | | | | 54.2 | | | | | | | | | | | | | | | | |

ORDER No. 114 Ed. 175T



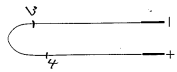

At 22¼ Candles. Test Started 6.30pm. 10.7.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. Minutes. | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 98 | .45½ | 8.50pm 10.30.96 | 285.20 | 5 | | 93 | .42½ |
| 2 | 97½ | .45½ | 7.45am. 10.22.96 | 193.45 | 3 | | 92½ | .42½ |
| 3 | 97½ | .45½ | 7.45am. 10.29.96 | 261.15 | 4 | | 92½ | .42½ |
| 4 | 96 | .46 | 7.50am. 10.9.96 | 70.50 | 1 | | 91 | .41½ |
| 5 | 98 | .45 | 8.05pm. 10.11.96 | 153.35 | 2 | | 92½ | .41½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 97.4 | .455 | | 192.87 | | | 92.3 | .421 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 307 |
| At 22¼ Candles. | 374 |

Rubaway in Lab

ORDER No. 115 Ed. #179B



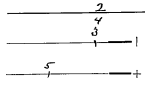

264 At 26¾ Candles. Test Started 6.30pm. 10.7.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. Minutes. | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | Oved | | | | | | 87 | .50½ |
| 2 | Broke on photo: | | | | | | 87¾ | .50 |
| 3 | 94½ | .57 | 4.45pm. 10.14.96 | 122.– | 2 | | 87 | .50 |
| 4 | 93 | .58 | 5.55pm. 10.12.96 | 99.25 | 1 | | 85 | .50 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 93¾ | .575 | | 110.42½ | | | 86.69 | .501 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 274 |
| At 26¾ Candles. | 370 |

277 324

Rubaway in Lab




| | Candles per H. P. |
|---|---|
| Candles. | 326 |
| Candles. | 375 |

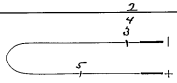
| 180 | 10 a.m. 10.3.96 | | | | 8.15 p.m. 10.6.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .36 | | | 12¾ | .35 | | | 10¾ | | | | | | | | | | | | | | | | |
| 2 | .35 | | | 13 | .35 | | | 10¾ | | | | | | | | | | | | | | | | |
| 3 | .36 | | 71.5 | 14½ | .35 | | | 11½ | | | | | | | | | | | | | | | | |
| 4 | .35 | | | 13½ | .34½ | | | 11 | | | | | | | | | | | | | | | | |
| 5 | .35 | | | 13½ | .35 | | | 11 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.45 | | | | 10.9 | | | | | | | | | | | | | | | | |
| % | | | | 67.7 | | | | 54.5 | | | | | | | | | | | | | | | | |

| 182 | 10 a.m. 10.3.96 | | | | 8.15 p.m. 10.6.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .40 | | | 13½ | .39 | | | 11½ | | | | | | | | | | | | | | | | |
| 2 | .39 | | | 13½ | .38 | | | 10¾ | | | | | | | | | | | | | | | | |
| 3 | .39 | | 44.6 | 14 | .38 | | | 11½ | | | | | | | | | | | | | | | | |
| 4 | .40 | | | 14 | .38½ | | | 11½ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.69 | | | | 11.19 | | | | | | | | | | | | | | | | |
| % | | | | 62.2 | | | | 51.7 | | | | | | | | | | | | | | | | |

ORDER No. 116 Ed. #180 T

At 20 Candles. Test Started 6.30 pm. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 101 | .38½ | Taken down 9.50 am. 12.5.96 | 604.45 | | | 97 | .37 |
| 2 | 102½ | .38½ | 8 am. 11.18.96 | 440.38 | 4 | | 98 | .37 |
| 3 | 105¼ | .40 | 11.25 am. 10.10.96 | 87.25 | 1 | | 101¼ | .38 |
| 4 | 102½ | .38½ | 8.25 am. 10.24.96 | 220.55 | 2 | | 97½ | .37 |
| 5 | 103¼ | .38 | 1.10 pm. 11.5.96 | 317.10 | 3 | | 99½ | .36½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 102.9 | .387 | | 334.09 | | | 98.65 | .371 |

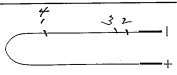



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 326 |
| At 20 Candles. | 375 |

ORDER No. 117 Ed. #182 B

At 21⅔ Candles. Test Started 6.30 pm. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 101¼ | .43 | 5.15 pm. 10.15.96 | 169.45 | 2 | | 96¼ | .40 |
| 2 | 104 | .43 | 10.45 pm. 10.8.96 | 70.— | 1 | | 98½ | .40 |
| 3 | 100 | .42 | 8.10 pm. 11.5.96 | 323.10 | 3 | | 95¼ | .39 |
| 4 | 100 | .43 | 9.35 pm. 11.10.96 | 369.35 | 4 | | 95 | .40 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 101.31 | .42¾ | | 233.07 | | | 96¼ | .39¾ |



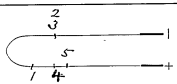

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 312 |
| At 21⅔ Candles. | 373 |

Put away in box

| | 10 am. 10.3.96 | | | | 8.15 pm. 10.6.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 182 T | 20 | | | | 46 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .40 | | | 14 | .38 | | | 11 2/7 | — | | | | | | | | | | | | | | | |
| 2 | .39 | | | 14 1/2 | .38 | | | 11 2/7 | — | | | | | | | | | | | | | | | |
| 3 | .39 | | | 13 1/2 | .38 | | | 11 | — | | | | | | | | | | | | | | | |
| 4 | .39 | | | 14 1/2 | .38 | | | 11 | | | | | | | | | | | | | | | | |
| 5 | — | | | — | — | | | — | — | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14.8 | | | | 11.3 | | | | | | | | | | | | | | | | |
| % | | | | 66.7 | | | | 53.5 | | | | | | | | | | | | | | | | |

| | 2 30 pm. 10.5.96 | | | | 8.15 pm. 10.4.96 | | | | 9 pm. 10.5.96 | | | | 8.30 pm. 10.4.96 | | | | 8.15 pm. 10.20.96 | | | | 9 pm. 10.26.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L.P. | 20.10 | | | | 39.10 | | | | 75.10 | | | | 119.25 | | | | 169.25 | | | | 228.55 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .44 | | | 17 3/7 | .45 | | | 16 2/7 | .43 | | | 16 5/7 | .43 | | | 16 2/7 | .43 2/7 | | | 15 | .43 | | | 14 |
| 2 | .44 1/2 | | | 16 5/7 | .45 | | | 17 1/7 | .44 | | | 16 3/7 | .44 | | | 15 4/7 | .44 | | | 15 | .44 | | | 14 1/2 |
| 3 | .45 | | | 17 1/7 | .45 | | | 17 1/7 | .44 | | | 17 4/7 | .43 | | | 16 | .44 2/7 | | | 16 | .44 | | | 14 2/7 |
| 4 | .45 | | | 17 1/7 | .45 | | | 16 2/7 | .45 | | | 16 | .45 | | | 15 1/2 | .44 3/7 | | | 15 | .44 1/2 | | | 14 |
| 5 | .43 | | | 16 4/7 | .44 | | | 14 4/7 | .43 | | | 15 | .43 | | | 13 3/7 | .43 2/7 | | | 14 2/7 | .43 2/7 | | | 15 5/7 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.95 | | | | 16.45 | | | | 16.3 | | | | 15.45 | | | | 15.15 | | | | 14.65 |
| % | | | | 102.4 | | | | 98.2 | | | | 97.3 | | | | 92.2 | | | | 90.4 | | | | 87.5 |

ORDER No. 118 Ed. # 182 T

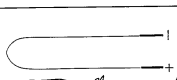



At 21¼ Candles. Test Started 6.30 Pm. 10.1.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 100½ | .42 | 9 am. 11.23.96 | 477.05 | 3 | | 96 | .40 |
| 2 | 98¼ | .42 | 11.30 a.m. 12.2.96 | 563.35 | 4 | | 93¾ | .39 |
| 3 | 99 | .42 | 11 am. 10.21.96 | 183.– | 2 | | 95 | .40 |
| 4 | 98 | .42 | 5.45 pm. 12.14.96 | 668.– | 5 | | 94 | .40 |
| 5 | 101½ | .42½ | 11.30 a.m. 10.2.96 | 8.00 | 1 | | 96½ | .40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99.45 | .421 | | 379.56 | | | 95.05 | .398 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 316 |
| At 21¼ Candles. | 378 |

ORDER No. 119 L. F. K.




Spiral treated. Chemically Exhausted

At 16¾ Candles. Test Started 2.20 Pm. 10.2.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111¼ | .44 | | 402.10 | | | 111 | .44 |
| 2 | 110 | .44½ | Jakeden 9th pm. 11.13.96 | 402.10 | | | 109¾ | .44½ |
| 3 | 111½ | .44½ | | 402.10 | | | 111 | .44¾ |
| 4 | 109¼ | .45 | 8.45 a.m. 11.7.96 | 331.55 | 1 | | 109 | .45 |
| 5 | 111½ | .45 | Jakeden 15th pm. 11.13.96 | 402.10 | | | 111¼ | .45 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.7 | .446 | | 385.07 | | | 110.45 | .4465 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 242 |
| At 16¾ Candles. | 253 |

Put away in bin

| 186 | 2.45pm. 11.11.96 | | | | 9.45 am. 11.13.96 | | | | 5pm 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .40 | | | 13 | .39 | | | 11 | .39 | | | 10½ | .38 | | | 9½ | | | | | | | | |
| 2 | .39½ | | | 12½ | .39 | | | 11½ | .38 | | | 10 | .37½ | | | 9½ | | | | | | | | |
| 3 | .40 | | | 12½ | .39½ | | | 11½ | .39 | | | 10½ | .38 | | | 9½ | | | | | | | | |
| 4 | .39½ | | | 12½ | .39 | | | 11½ | .38½ | | | 10 | .37½ | | | 9 | | | | | | | | |
| 5 | .39½ | | | 13 | .38½ | | | 11½ | .38 | | | 10½ | .37 | | | 9½ | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 12.8 | | | | 11½ | | | | 10.35 | | | | 9.4 | | | | | | | | |
| % | | | | 68.3 | | | | 60 | | | | 55.2 | | | | 50.1 | | | | | | | | |

| 190 | 2.45pm. 11.11.96 | | | | 9.45am. 11.13.96 | | | | 5pm 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .46 | | | 14½ | .45½ | | | 12½ | .45 | | | 12 | .44 | | | 10½ | | | | | | | | |
| 2 | .47 | | | 14 | .46½ | | | 12 | .46 | | | 11 | .45½ | | | 11 | | | | | | | | |
| 3 | .47 | | | 14 | .46 | | | 12½ | .45½ | | | 11½ | .45 | | | 10½ | | | | | | | | |
| 4 | .46½ | | | 13½ | .46 | | | 11¾ | .45 | | | 11 | .44½ | | | 10 | | | | | | | | |
| 5 | .46½ | | | 14½ | .46 | | | 12½ | .45 | | | 11½ | .44½ | | | 10½ | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14 | | | | 12.1 | | | | 11.35 | | | | 10½ | | | | | | | | |
| % | | | | 66.7 | | | | 57.6 | | | | 54 | | | | 50 | | | | | | | | |

ORDER No. 120 Ed. #186

At 18 3/4 Candles. Test Started 11.30pm 11.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 91 | .42 | | 239.15 | | | 87 1/2 | .39 3/4 |
| 2 | 90 | .41 3/4 | Taken down | 239.15 | | | 87 | .40 |
| 3 | 92 | .42 1/4 | 10am. 12/5/96 | 239.15 | | | 89 | .40 3/4 |
| 4 | 89 | .41 1/2 | | 239.15 | | | 86 1/2 | .40 1/4 |
| 5 | 89 1/2 | .42 | 2pm. 11.24.96 | 131.35 | 1 | | 86 1/2 | .40 1/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 90.3 | .419 | | 217.43 | | | 87.3 | .402 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 339 |
| At 18 3/4 Candles. | 369 |

ORDER No. 121 Ed. #190

At 21 Candles. Test Started 11.30pm. 11.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 88 | .48 1/4 | | | | | 83 | .45 |
| 2 | 85 1/2 | .50 | | | | | 80 1/4 | .46 1/4 |
| 3 | 86 1/2 | .49 3/4 | Taken down | | | | 82 | .46 1/4 |
| 4 | 86 | .49 | | | | | 81 1/2 | .46 |
| 5 | 86 | .49 | | | | | 81 3/4 | .46 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 86.4 | .492 | | | | | 81.7 | .459 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 318 |
| At 21 Candles. | 376 |

| 191 | 2.45pm. 11.11.96 | | | | 9.45am. 11.12.96 | | | | 5pm. 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ODN L. | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 3/4 | | | 15 1/2 | .49 | | | 13 1/2 | .49 1/2 | | | 13 1/2 | .49 | | | 11 1/2 | | | | | | | | |
| 2 | .50 | | | 15 | .49 | | | 12 3/4 | .49 1/2 | | | 12 | — | | | — | — | | | | | | | |
| 3 | .49 1/4 | | | 14 3/4 | .49 | | | 13 1/4 | .47 1/2 | | | 14 | .46 | | | 11 3/4 | — | | | — | | | | |
| 4 | .50 | | | 15 | .49 | | | 13 | .48 3/4 | | | 12 1/4 | .47 3/4 | | | 11 | | | | | | | | |
| 5 | .49 1/2 | | | 14 1/2 | .48 1/2 | | | 12 1/2 | .48 1/2 | | | 12 1/2 | .47 3/4 | | | 11 | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 14.95 | | | | 13.1 | | | | 12.85 | | | | 11.31 | | | | | | | | |
| % | | | | 66.4 | | | | 58.2 | | | | 57.1 | | | | 50.3 | | | | | | | | |

| 193 | 2.45pm. 11.11.96 | | | | 9.45am. 11.13.96 | | | | 5pm. 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .46 1/2 | | | 14 1/4 | .45 | | | 12 3/4 | .44 | | | 12 | .43 | | | 10 | — | | | — | | | | |
| 2 | .46 | | | 14 | .45 | | | 11 3/4 | .45 | | | 11 1/2 | .44 | | | 10 1/2 | | | | | | | | |
| 3 | .45 3/4 | | | 14 | .46 3/4 | | | 12 1/2 | .44 1/2 | | | 11 1/2 | .43 1/2 | | | 10 1/2 | | | | | | | | |
| 4 | .45 | | | 12 1/4 | .45 | | | 12 | .44 | | | 11 | .43 1/2 | | | 10 1/2 | — | | | — | | | | |
| 5 | .45 3/4 | | | 13 1/2 | .45 1/4 | | | 12 3/4 | .45 | | | 11 1/2 | .44 | | | 10 3/4 | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.6 | | | | 12.35 | | | | 11.5 | | | | 10.45 | | | | | | | | |
| % | | | | 66.2 | | | | 60.2 | | | | 56.1 | | | | 51 | | | | | | | | |

ORDER No. 122 Ed. #191

At 22½ Candles. Test Started 11.30pm. 11.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 85 | .52 | Fell down 9.50am. 12/11/96 | 239.05 | | | 80½ | .49¼ |
| 2 | 86 | .52 | 7.55am. 11.17.96 | 62.45 | 1 | | 81¼ | .48¼ |
| 3 | 86 | .52¼ | 7.30pm. 12.2.96 | 207.05 | 2 | | 81 | .48½ |
| 4 | 86 | .52 | Fell down 9.50am. 12/11/96 | 239.05 | | | 81 | .48¼ |
| 5 | 85 | .52 | do | 239.05 | | | 80½ | .48¼ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 85.6 | .52 | | 197.41 | | | 80.9 | .485 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 304 |
| At 22½ Candles. | 376 |

ORDER No. 123 Ed. #193

At 20½ Candles. Test Started 11.30pm. 11.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 87 | .48¼ | 8.15pm 12.2.96 | 207.50 | 1 | | 82½ | .45¼ |
| 2 | 87 | .48¾ | | | | | .83 | .46 |
| 3 | 86 | .48 | Fell down 10am 12/11/96 | | | | 82 | .45 |
| 4 | 85½ | .48 | | | | | 81½ | .45 |
| 5 | 84½ | .49 | | | | | 80½ | .45½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 86 | .484 | | | | | 81.9 | .454 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 322 |
| At 20½ Candles. | 367 |

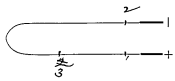
| 199 | 2.48pm. 11.11.96 | | | | 9.45am. 11.13.96 | | | | 5pm. 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| days | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .28 2/4 | | | 10 2/4 .28 | | | | 9 | 27 1/2 | | | 8 1/2 .27 | | | | 7 1/2 | | | | | | | | |
| 3 | .29 1/2 | | | 10 2/4 .28 | | | | 9 | .28 | | | 8 1/4 .27 3/4 | | | | 7 2/4 | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 10 3/4 | | | | 9 | | | | 8.62 | | | | 7.62 | | | | | | | | |
| % | | | | 69.3 | | | | 58.1 | | | | 55.6 | | | | 49.2 | | | | | | | | |

| 205 | 2.45pm. 11.11.96 | | | | 9.45am. 11.13.96 | | | | 5pm. 11.16.96 | | | | 9am. 11.20.96 | | | | 10.25pm. 12.4.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| days | 20 | | | | 40 | | | | 60 | | | | 100 | | | | 235:45" | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .30 | | | 11 1/2 .29 1/2 | | | | 10 1/2 | .29 | | | 9 1/4 .28 3/4 | | | | 8 .27 1/2 | | | | 7 1/4 | | | | |
| 2 | .30 | | | 11 2/4 .29 1/2 | | | | 11 | .29 | | | 9 1/2 .28 | | | | 8 1/2 .27 | | | | 7 | — | | | — |
| 3 | .32 | | | 11 1/2 .30 | | | | 10 1/2 | .30 2/4 | | | 9 3/4 .30 | | | | 8 1/2 — | | | | — | — | | | |
| 4 | .31 | | | 11 2/4 .30 1/2 | | | | 10 1/2 | .30 | | | 9 1/2 .29 | | | | 8 1/2 .28 1/2 | | | | 7 1/2 | | | | |
| 5 | .30 | | | 11 1/2 .29 3/4 | | | | 10 | .28 3/4 | | | 9 1/4 — | | | | — — | | | | — | — | | | |
| 6 | — | | | — | | | | | | | | | | | | — — | | | | — | — | | | |
| 7 | .30 | | | 12 .29 | | | | 10 1/2 | .28 3/4 | | | 9 3/4 .28 | | | | 8 1/2 — | | | | — | — | | | |
| 8 | .30 | | | 11 1/2 .29 | | | | 10 1/4 | .28 3/4 | | | 9 1/4 .28 | | | | 8 1/4 .27 | | | | 7 1/4 | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.61 | | | | 10.43 | | | | 9.46 | | | | 8.29 | | | | 7.25 | | | | |
| % | | | | 72.5 | | | | 65.2 | | | | 59.1 | | | | 51.8 | | | | 45.3 | | | | |

ORDER No. 124 Ed. #199

At 15½ Candles. Test Started 11.30 p.m. 11.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 102 | .30 | Broke on Photo. | | 1 | | 102½ | .30¼ |
| 2 | 100 | .30¾ | 11.35 a.m. 12.10.96 | 268.40 | 3 | | 100½ | .31 |
| 3 | 99 | .31 | 11.35 a.m. 12/5/96 | 240.50 | 2 | | 99½ | .31½ |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 100.3 | .306 | | 254.45 | | | 100.8 | .309 |

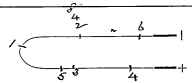



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 382 |
| At 15½ Candles. | 377 |

ORDER No. 125 Ed. #205

At Candles. Test Started 11.30 p.m. 11.9.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 11.25 a.m. 12.24.96 | 416.30 | 8 | | 100½ | .32 |
| 2 | | | 9.35 a.m. 12.11.96 | 280.10 | 5 | | 101¾ | .32 |
| 3 | | | 2.30 p.m. 12.2.96 | 203.05 | 3 | | 98¼ | .33 |
| 4 | | | 8.15 p.m. 12.21.96 | 381.20 | 6 | | 98½ | .32¾ |
| 5 | | | 10.30 a.m. 11.17.96 | 65.20 | 2 | | 101½ | .31½ |
| 6 | | | 4.10 p.m. 11.10.96 | 8.10 | 1 | | 101¼ | .31½ |
| 7 | | | 3.05 p.m. 12.3.96 | 216.10 | 4 | | 101 | .31¼ |
| 8 | | | 11.05 a.m. 12.24.96 | 416.10 | 7 | | 100½ | .32 |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 248.22 | | | 100.4 | .32 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 371 |
| At Candles. | |

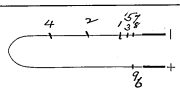
206 (800 c.)

| | 2.45pm. 11.11.96 | | | | 9.45pm. 11.13.96 | | | | 5pm. 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .32½ | | | 12½ | .32 | | | 11 | .31 | | | 9⅔ | .30½ | | | 9 | — | | | — | | | | |
| 2 | .32 | | | 12¾ | .31 | | | 11¼ | .30½ | | | 10¼ | .30 | | | 9 | | | | | | | | |
| 3 | .30½ | | | 11¾ | .30 | | | 11 | — | | | — | — | | | — | — | | | — | | | | |
| 4 | .33 | | | 12½ | .32½ | | | 11½ | .32 | | | 10 | .31½ | | | 8½ | | | | | | | | |
| 5 | .31 | | | 12 | .29¾ | | | 10¾ | .28⅔ | | | 9¼ | — | | | — | — | | | — | | | | |
| 6 | .30¼ | | | 11¼ | .29¾ | | | 10¼ | .29 | | | 9¼ | .28½ | | | 8½ | — | | | — | | | | |
| 7 | .31 | | | 12 | .30 | | | 11¼ | .29 | | | 9½ | .28¼ | | | 8½ | — | | | — | | | | |
| 8 | .30½ | | | 11 | .30 | | | 10¼ | .29½ | | | 9½ | — | | | — | — | | | — | | | | |
| 9 | .30½ | | | 11¼ | .29¾ | | | 10½ | .29 | | | 9¼ | .28½ | | | 8½ | — | | | — | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.88 | | | | 10.92 | | | | 9.59 | | | | 8.66 | | | | | | | | |
| % | | | | 69.9 | | | | 64.2 | | | | 56.4 | | | | 50.9 | | | | | | | | |

207 (800)

| | 2.45pm. 11.11.96 | | | | 9.45am. 11.13.96 | | | | 5pm. 11.16.96 | | | | 9am. 11.20.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .27 | | | 10½ | .26½ | | | 9¾ | .26 | | | 8¾ | .25½ | | | 7¾ | — | | | — | | | | |
| 2 | .26 | | | 10½ | .25¾ | | | 9½ | .25 | | | 8¾ | .24¾ | | | 7¾ | — | | | — | | | | |
| 3 | .26 | | | 10 | .26 | | | 9½ | .25 | | | 8¼ | .24¾ | | | 8 | — | | | — | | | | |
| 4 | .26¾ | | | 10¾ | .26 | | | 10 | .25½ | | | 9 | .25 | | | — | — | | | — | | | | |
| 5 | .25½ | | | 10¾ | .25 | | | 10 | — | | | 7 | — | | | 8 | — | | | — | | | | |
| 6 | .26 | | | 10¾ | .25¾ | | | 10 | .25½ | | | 9 | .25 | | | 7¾ | — | | | — | | | | |
| 7 | .25½ | | | 11 | .25 | | | 10 | .24 | | | 8½ | .24 | | | 8 | | | | | | | | |
| 8 | .26 | | | 10¾ | .25 | | | 10 | .25 | | | 9 | .24½ | | | — | — | | | — | | | | |
| 9 | .26 | | | 10½ | .25½ | | | 9¾ | .25 | | | 9 | — | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 10.58 | | | | 9.83 | | | | 8.84 | | | | 7.86 | | | | | | | | |
| % | | | | 68.3 | | | | 63.4 | | | | 57.1 | | | | 50.7 | | | | | | | | |

ORDER No. 126 Ed. #206



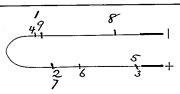

At 17 Candles. Test Started 11.30pm. 11.9.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. Minutes. | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 102 | .34 1/4 | 8.05am. 11.23.96 | 113.40 | 5 | | 101 | .33 3/4 |
| 2 | 102 | .33 1/2 | 4.40pm. 12.14.96 | 304.45 | 8 | | 100 1/4 | .33 |
| 3 | 104 | .33 | 10.15am. 11.14.96 | 51.15 | 1 | | 102 1/2 | .32 |
| 4 | 101 | .34 3/4 | 5.55pm. 12.22.96 | 394.– | 9 | | 99 | .34 |
| 5 | 103 | .33 1/4 | 8.40pm. 11.16.96 | 60.30 | 2 | | 101 1/8 | .32 1/2 |
| 6 | 104 1/2 | .32 3/4 | 7.50am. 11.25.96 | 139.15 | 7 | | 103 1/4 | .32 |
| 7 | 101 | .33 | 1.45pm. 11.20.96 | 102.10 | 4 | | 100 1/2 | .32 3/4 |
| 8 | 103 | .32 1/2 | 10am. 11.17.96 | 64.50 | 3 | | 102 1/4 | .32 1/2 |
| 9 | 104 1/2 | .32 3/4 | 8.15pm. 11.23.96 | 123.50 | 6 | | 103 1/4 | .32 |
| 10 | | | | | | | | |
| Avg. | 102.8 | .333 | | 150.28 | | | 101.5 | .327 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 360 |
| At 17 Candles. | 371 |

Firmary Wm

ORDER No. 127 Ed. #207




At 15 1/2 Candles. Test Started At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. Minutes. | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106 1/4 | .28 3/4 | 12n. 12.8.96 | 246.15 | 7 | | 107 | .29 |
| 2 | 110 | .28 | 9.25pm. 12.1.96 | 196.– | 4 | | 110 3/4 | .28 1/2 |
| 3 | 107 1/2 | .28 1/4 | 8.30am. 11.28.96 | 139.55 | 3 | | 109 | .28 3/4 |
| 4 | 109 | .28 1/4 | 8.40pm. 12.2.96 | 208.15 | 6 | | 110 1/2 | .29 |
| 5 | 111 | .28 1/2 | 9.45pm. 11.16.96 | 54.45 | 1 | | 111 1/2 | .28 1/2 |
| 6 | 108 | .28 | 9.15am. 12.2.96 | 198.50 | 5 | | 109 | .28 1/2 |
| 7 | 111 | .27 1/2 | 9.40am. 12.10.96 | 266.45 | 8 | | 112 | .28 |
| 8 | 109 | .27 3/4 | 8.15pm. 12.15.96 | 317.20 | 9 | | 110 1/2 | .28 1/4 |
| 9 | 108 | .27 3/4 | 7.10am. 11.20.96 | 98.10 | 2 | | 110 | .28 1/4 |
| 10 | | | | | | | | |
| Avg. | 108.9 | .281 | | 191.48 | | | 110 | |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 381 |
| At 15 1/2 Candles. | 378 |

205

| | 1.05pm. 11.17.96 | | | | 8.35a.m. 11.19.96 | | | | 8.30 am. 11.21.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40.50" | | | | 63.55" | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .30½ | | | 12 | .30 | | | 10 | .29 | | | 9 |
| 2 | .30½ | | | 11¾ | .30 | | | 10 | .29½ | | | 9½ |
| 3 | .30 | | | 12¼ | .29 | | | 9¾ | — | | | — |
| 4 | .30 | | | 12 | .29⅞ | | | 10¼ | .29 | | | 9¼ |
| 5 | .30 | | | 12 | .29⅞ | | | 9¾ | .29 | | | 9½ |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| Avg. | | | | 12 | | | | 9.95 | | | | 9¼ |
| % | | | | 75 | | | | 62.2 | | | | 57.8 |

| | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | — | | | — | | | | | | | | | | | | | | | | | | | | |
| 4 | — | | | — | | | | | | | | | | | | | | | | | | | | |
| 5 | — | | | — | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | | | | | | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

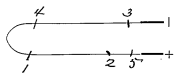
B
206

| | 1.05pm. 11.17.96 | | | | 8.35am. 11.19.96 | | | | 8.30am. 11.21.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40.50 | | | | 63.55" | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .29 | | | 9 | .28½ | | | 7½ | .28 | | | 7½ |
| 2 | .29 | | | 9¾ | — | | | — | | | | |
| 3 | .28 | | | 9 | .27⅞ | | | 7 | .27 | | | 7½ |
| 4 | .28½ | | | 9½ | .28 | | | 7½ | .27⅞ | | | 7½ |
| 5 | .28½ | | | 9 | .28 | | | 7½ | .27½ | | | 7½ |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| Avg. | | | | 9½ | | | | 7.37 | | | | 7.31 |
| % | | | | 74 | | | | 59 | | | | 58.5 |

| | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | | | | | | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

ORDER NO. 128 Ed. #205A

- at 2 watts -

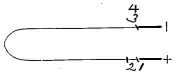



At Candles. Test Started 9.45 pm. 11.13.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. Minutes. | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 1130 AM 2-11-97 | 799.50 | 5 | | 100¼ | .32 |
| 2 | | | 9.55 am. 1.9.97 | 492.30 | 2 | | 100¼ | .32 |
| 3 | | | 5.20 pm. 11.19.96 | 47.10 | 1 | | 102 | .31¾ |
| 4 | | | 2.40 P.M. 1-25-97 | 627.00 | 4 | | 103 | .31½ |
| 5 | | | 1.55 P.M. 1-25-97 | 626.15 | 3 | | 102 | .31¾ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 101.5 | .318 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 370 |
| At Candles. | |

ORDER NO. 129 Ed. #205B




At 12½ Candles. Test Started 9.45 pm. 11.13.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. Minutes. | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 96 | .30¼ | 4.50 pm. 12.14.96 | 258.10 | 2 | | 100 | .32 |
| 2 | 95 | .31 | 7.45 am. 11.19.96 | 40.– | 1 | | 99¾ | .32½ |
| 3 | 98½ | .30 | 4 pm. 1.5.97 | 449.05 | 3 | | 103 | .32 |
| 4 | 97 | .30 | 8.25 pm. 1.13.97 | 525.30 | 4 | | 101¼ | .32 |
| 5 | 97 | .30 | | | | | 101¼ | .31½ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 94.7 | .302 | | | | | 101 | .32 |

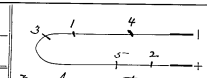
| | Candles per H. P. |
|---|---|
| At 16 Candles. | 369 |
| At 12½ Candles. | 320 |

| 205 @ | 1.05 pm. 11.17.96 | | | | 8.35 am. 11.19.96 | | | | 8.30 a.m. 11.21.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L. | 20 | | | | 40'50" | | | | 63'55" | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .31 | | | 11½ | .30 | | | 9 | .29½ | | | 9 | | | | | | | | | | | | |
| 2 | .30 | | | 11½ | .28 | | | 9½ | .27½ | | | 9½ | — | | — | | | | | | | | | |
| 3 | — | | | — | | | | | | | | | | | | | | | | | | | | |
| 4 | .30 | | | 11½ | .29¾ | | | 9½ | .29½ | | | 9½ | | | | | | | | | | | | |
| 5 | .31½ | | | 11½ | .30½ | | | 9 | .30 | | | 8½ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avo. | | | | 11.44 | | | | 9.19 | | | | 9 | | | | | | | | | | | | |
| % | | | | 71.5 | | | | 57.4 | | | | 56.2 | | | | | | | | | | | | |

| 205 | 1.05 pm. 11.17.96 | | | | 8.35 am. 11.19.96 | | | | 8.30 am. 11.21.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L. | 20 | | | | 40'50" | | | | 63.55" | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .28½ | | | 9½ | .28 | | | 7½ | .27½ | | | 7½ | — | | | — | | | | | | | | |
| 2 | .29½ | | | 9½ | .29 | | | 8 | .28½ | | | 7½ | — | | | — | | | | | | | | |
| 3 | .29½ | | | 10½ | .28 | | | 8½ | .27½ | | | 7½ | | | | | | | | | | | | |
| 4 | .28½ | | | 10½ | .28 | | | 8½ | .27½ | | | 7½ | | | | | | | | | | | | |
| 5 | .30 | | | 10½ | .29¾ | | | 8½ | .29 | | | 8 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avo. | | | | 10.05 | | | | 8.05 | | | | 7.6 | | | | | | | | | | | | |
| % | | | | 80.4 | | | | 64.4 | | | | 60.8 | | | | | | | | | | | | |

ORDER No. 130 Ld: # 205 C

2 Watts



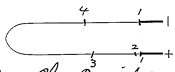

At Candles. Test Started 9.45 pm. 11.13.96 At 16 Candles.

New Lamp Mixture

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 4 pm. 12.21.96 | 331.20 | 3 | | 99 3/16 | .32 1/2 |
| 2 | | | 3 pm. 12.10.96 | 224.20 | 2 | | 100 1/4 | .31 3/4 |
| 3 | | | 8.35 am. 11.17.96 | 16.40 | 1 | | 101 1/4 | .31 |
| 4 | | | 9.10 pm 12.21.96 | 335.30 | 4 | | 101 1/2 | .32 |
| 5 | | | 1.15 PM 1-19-97 | 567.50 | 5 | | 97 1/2 | .33 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 100 | .32 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 373 |
| At Candles. | |

ORDER No. 131 Ld: # 205 D




At 12 1/2 Candles. Test Started 9.45 pm. 11.13.96 At 16 Candles.

New Lamp Mixture

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 97 | .30 | 11.20 am. 12.24.96 | 369.40 | 1 | | 101 | .31 3/4 |
| 2 | 93 3/4 | .31 | 9.40 am. 1.5.97 | 443.45 | 2 | | 97 1/4 | .33 |
| 3 | 98 | .29 1/2 | 4.25 PM, 2-24-97 | 930.25 | 4 | | 102 | .31 1/2 |
| 4 | 98 | .29 3/4 | 9.25 am 1-7-97 | 471.15 | 3 | | 102 | .31 1/2 |
| 5 | 94 1/4 | .31 | | | | | 98 | .33 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 96.2 | .303 | | | | | 100 | .322 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 371 |
| At 12 1/2 Candles. | 320 |

205 F 10.40 a.m. 11.18.96

20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | — | | | — | | | | | | | | | | | | | | | | |
| 2 | .30 | | | 11¼ | — | | | — | | | | | | | | | | | | | | | | |
| 3 | .29 | | | 11¼ | — | | | — | | | | | | | | | | | | | | | | |
| 4 | .30 | | | 11 | — | | | — | | | | | | | | | | | | | | | | |
| 5 | .30¾ | | | 12 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.37 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 71.1 | | | | | | | | | | | | | | | | | | | | |

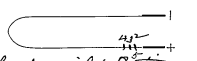
205 F 10.40 a.m. 11.18.96

20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .30½ | | | 11¾ | | | | | | | | | | | | | | | | | | | | |
| 2 | .29½ | | | 10¾ | | | | | | | | | | | | | | | | | | | | |
| 3 | .30 | | | 11¼ | — | | | — | | | | | | | | | | | | | | | | |
| 4 | .30 | | | 11¼ | | | | | | | | | | | | | | | | | | | | |
| 5 | .30¾ | | | 11 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.3 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 67.8 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 132 Ed. #205 F

at 2 Watts




Treated with 2 Sections

At Candles. Test Started 2.30 pm. 11.16.96 At 16 Candles.

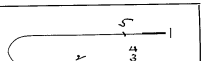
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 8.35 pm. 11.16.96 | 13.45 | 1 | | 102 | .31 1/4 |
| 2 | | | 9.40 am. 12.10.96 | 209.05 | 3 | | 101 | .32 1/2 |
| 3 | | | 3.10 pm. 12.18.96 | 300.35 | 4 | | 102 3/4 | .31 |
| 4 | | | 8.45 pm. 12.2.96 | 150.40 | 2 | | 101 1/4 | .32 |
| 5 | | | 8.50 AM. 1-19-97 | 583.30 | 5 | | 100 1/4 | .32 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 101.45 | .3175 |

Candles per H. P.

At 16 Candles. 371

At Candles.

ORDER No. 133 Ed. #205 F




Treated with 6 Sections.

At 16 2/3 Candles. Test Started 2.30 pm. 11.16.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 102 1/2 | .32 3/4 | 11.50 am. 1.5.97 | 435.— | 4 | | 101 3/4 | .32 1/2 |
| 2 | 104 1/2 | .32 | 8.40 pm. 12.11.96 | 331.35 | 3 | | 104 | .32 |
| 3 | 103 | .32 1/4 | 10.20 am. 12.1.96 | 129.15 | 1 | | 102 1/4 | .32 |
| 4 | 101 | .32 1/4 | 10.05 pm. 12.10.96 | 219.30 | 2 | | 100 | .32 |
| 5 | 102 3/4 | .33 | 2.05 pm. 1.8.97 | 472.30 | 5 | | 102 | .32 1/2 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 102 3/4 | .3245 | | 317.34 | | | 102 | 32.2 |

Candles per H. P.

At 16 Candles. 365

At 16 2/3 Candles. 373

205 g. 10.40am. 11.18 96

22.10

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .26½ | | | 5⅞ | – | | | – | | | | | | | | | | | | | | | | |
| 2 | .26⅞ | | | 5⅞ | – | | | – | | | | | | | | | | | | | | | | |
| 3 | .26½ | | | 5⅞ | – | | | – | | | | | | | | | | | | | | | | |
| 4 | .26½ | | | 5½ | | | | | | | | | | | | | | | | | | | | |
| 5 | .26 | | | 4⅞ | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 5.4 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 67.5 | | | | | | | | | | | | | | | | | | | | |

Ed: 1pm. 12.9.96 | 10am. 12.11.96 | 3pm. 12.14.96

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| 1 | .48⅜ | | | 20⅞ | .48 | | | 18⅞ | .48 | | | 16⅞ | | | | | | | | | | | | |
| 2 | .49 | | | 21 | .48 | | | 18½ | .47⅞ | | | 16½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20.62 | | | | 18.38 | | | | 16.37 | | | | | | | | | | | | |
| % | | | | 71.7 | | | | 63.9 | | | | 57 | | | | | | | | | | | | |

ORDER No. 134 Ed. #205 G

At Candles. Test Started 2.30 pm. 11.16.96 At 8 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 10.40 am. 11.18.96 | 22.10 | 1 | | 90 | .28 |
| 2 | | | 4.18 pm. 11.20.96 | 50.50 | 3 | | 90 3/4 | .28 |
| 3 | | | 2.45 pm. 11.18.96 | 24.15 | 2 | | 89 1/4 | .28 |
| 4 | Taken down | | 9.45 pm. 12.5.96 | 183.10 | — | | 89 3/4 | .28 |
| 5 | | | - - - | 183.60 | — | | 89 3/4 | .28 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 92.68 | | | 89.9 | .28 |

Candles per H. P.

At 8 Candles. 237

At Candles.

ORDER No. 135 Ed. #1

At 28 3/4 Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 1/2 | .51 1/4 | Taken down 7.10 pm. 12.17.96 | 100 | | | 99 1/4 | .45 1/2 |
| 2 | 109 1/2 | .51 1/4 | | 100 | | | 100 1/4 | .45 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 | .5125 | | 100 | | | 99.75 | .455 |

Candles per H. P.

At 16 Candles. 262

At 28 3/4 Candles. 385

| Pd. #3 1000 L. | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50½ | | | 23 | .49½ | | | 20½ | .49 | | | 17 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23 | | | | 20.5 | | | | 17 | | | | | | | | | | | | |
| % | | | | 72.4 | | | | 64.6 | | | | 53.5 | | | | | | | | | | | | |

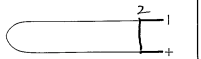
Jul 17 96

| Pd. #4 1000 L. | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48½ | | | 22 | .47½ | | | 18 | — | | | — | | | | | | | | | | | | |
| 2 | .50½ | | | 24 | .49½ | | | 19¾ | .49 | | | 18 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23 | | | | 18.88 | | | | 18 | | | | | | | | | | | | |
| % | | | | 60 | | | | 65.7 | | | | 62.6 | | | | | | | | | | | | |

ORDER No. 136 Ed. #3

At $31\frac{3}{4}$ Candles. Test Started 10.30 a.m. 12.5.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | .52 | Fallen down 7.10 p.m. 12.17.96 | 100 | 2nd | | 98 | .45¼ |
| 2 | 119¼ | .55 | 11.25 a.m. 12.5.96 | .55½ | 1 | | 109¾ | .48 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114.12 | .535 | | — | | | 103.87 | .4662 |

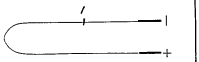



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 246 |
| At $31\frac{3}{4}$ Candles. | 387 |

ORDER No. 137 Ed. #4

At $28\frac{3}{4}$ Candles. Test Started 10.30 a.m. 12.5.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113¼ | .49¼ | 8.45 p.m. 12.11.96 | 46.15 | 1 | | 103¼ | .44 |
| 2 | 111½ | .51 | Fallen down 12.17.96 7.10 p.m. | 100.— | — | | 101 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.38 | .5012 | | — | | | 102.12 | .445 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At $28\frac{3}{4}$ Candles. | 379 |

| Ed: #5 Wt. | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .45½ | | | 20½ | .43½ | | | 16½ | .43 | | | 14½ | — | | | — | | | | | | | | |
| 2 | .49 | | | 23 | .48 | | | 20 | .47½ | | | 18 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avs. | | | | 21¾ | | | | 18¼ | | | | 16¼ | | | | | | | | | | | | |
| % | | | | 77 | | | | 64.6 | | | | 57.5 | | | | | | | | | | | | |

Johnson 12.17.96

| Ed: #6 Wt. | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 21 | .50¾ | | | 19½ | .50 | | | 17½ | | | | | | | | | | | | |
| 2 | .50 | | | 23 | .49 | | | 19¾ | .48 | | | 17¾ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22 | | | | 19.62 | | | | 17.37 | | | | | | | | | | | | |
| % | | | | 75.9 | | | | 67.7 | | | | 59.9 | | | | | | | | | | | | |

Johnson

ORDER No. 138 Ed: #5

At 28¼ Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116½ | .47½ | 9 p.m. 12.18.96 | 74.20 | 1 | | 106½ | .42½ |
| 2 | 111½ | .50 | Fallen down 12.17.96 7.10 p.m. | 100 | | | 101½ | .44¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114 | .4875 | | ✓ | | | 104 | .436 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28¼ Candles. | 379 |

ORDER No. 139 Ed. #6

At 29 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108¼ | .53 | Fallen down 7.10 p.m. 12.17.96 | 100 | | | 98¾ | .47 |
| 2 | 110 | .51 | | 100 | | | 100¼ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.12 | .52 | | ✓ | | | 99½ | .46 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 383 |

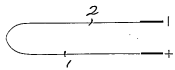
| 7 | 1pm. 12.9.96 | | | | 10am. 12.11.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 L. | 20 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | — | | | — | — | | | — | | | | | | | | | | | | | | | | |
| 2 | .49½ | | | 23 | .48 | | | 18½ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23 | | | | 18½ | | | | | | | | | | | | | | | | |
| % | | | | 78.6 | | | | 63.2 | | | | | | | | | | | | | | | | |

| 8 | 1pm. 12.9.96 | | | | 10am. 12.11.96 | | | | 3pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 L. | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48½ | | | 19½ | .47 | | | 16 | .46 | | | 14½ | | | | | | | | | | | | |
| 2 | .50 | | | 19 | .49 | | | 16 | .48 | | | 14½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.38 | | | | 16 | | | | 14½ | | | | | | | | | | | | |
| % | | | | 63.5 | | | | 52.5 | | | | 47.5 | | | | | | | | | | | | |

ORDER No. 140 Ed: #7

At 29¼ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116 | .51½ | 1.40pm 12.8.96 | 7.10 | 1 | | 105¾ | .45½ |
| 2 | 109 | .50 | 3.50 – 12.11.96 | 42.20 | 2 | | 99 | .44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112½ | .5075 | | 24.65 | | | 102.38 | .45 |

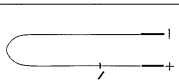



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 382 |

ORDER No. 141 Ed: #8

At 30½ Candles. Test Started 12. 5. 96 10.30 am At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116¾ | .51 | 9.30pm 12.14.96 | 61.15 | 1 | | 105 | .44½ |
| 2 | 115¼ | .53 | Fallen down 12.17.96 7.10pm | 100.— | — | | 104 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 116 | .52 | | ✓ | | | 104½ | .4525 |



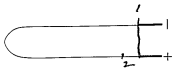

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At 30½ Candles. | 377 |

| 11 | 1 p.m. 12.9.96 | | | | 10 p.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 22 | .48 | | | 18 | .47 | | | 16½ | | | | | | | | | | | | | | | | |
| 2 | .50 | | | 21¾ | .48½ | | | 19 | .47½ | | | 16¾ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21.62 | | | | 18½ | | | | 16½ | | | | | | | | | | | | | | | | |
| % | | | | 75.2 | | | | 64.3 | | | | 57.4 | | | | | | | | | | | | | | | | |

ORDER NO. 142 Ed: #10

At 31 Candles. Test Started 10.30 a.m. 12.5.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 117 | .54 | 11.45 a.m. 12.5.96 | 1.15 | 1 | | 104 3/4 | .46 |
| 2 | 117 | .54 | 1.50 p.m. 12.8.96 | 7.20 | 2 | | 104 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 117 | .54 | | 4.17 | | | 104.38 | .46 |

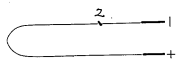



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At 31 Candles. | 372 |

ORDER NO. 143 Ed: #11

At 28 3/4 Candles. Test Started 10.30 a.m. 12.5.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 3/4 | .50 1/2 | Taken down 7 p.m. 12/5/96 | 100 | — | | 104 | .44 1/2 |
| 2 | 111 | .50 1/2 | 9.50 p.m. 12.14.96 | 61.35 | 1 | | 100 1/4 | .44 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.87 | .505 | | — | | | 102.12 | .445 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28 3/4 Candles. | 377 |

| 12 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .45 | | | 21 2/3 | .48 5/8 | | | 18 1/2 | .42 5/8 | | | 16 1/4 | | | | | | | | | | | | |
| 2 | .49 3/4 | | | 24 | .49 | | | 20 | .48 | | | 18 1/4 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.88 | | | | 19 1/4 | | | | 17 1/2 | | | | | | | | | | | | |
| % | | | | 81.7 | | | | 68.7 | | | | 62.5 | | | | | | | | | | | | |

| 13 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 1/2 | | | 23 1/2 | .50 | | | 20 1/2 | .49 | | | 17 1/2 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 23 1/2 | | | | 20 1/2 | | | | 17 1/2 | | | | | | | | | | | | |
| Ave. | | | | 81 | | | | 70.7 | | | | 60.3 | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

ORDER No. 144 Ed. #12

At 28 Candles. Test Started 10 30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116 | .47 | Fell down 7.10 pm 12.17.96 | 100. | | | 105½ | .41½ |
| 2 | 110 | .57 | | 100. | | | 101 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113 | .49 | | ✓ | | | 103.25 | .4325 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 267 |
| At 28 Candles. | 378 |

ORDER No. 145 Ed. #13

At 29 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .52 | Fallen down 7.10 pm 12.17.96 | 100 | — | | 99½ | .46 |
| 2 | 115½ | .50 | 9 a.m. 12.9.96 | 17.00 | 1 | | 104 | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.38 | .51 | | ✓ | | | 101.75 | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

| 14 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50½ | | | 22 | .49 | | | 17½ | .48 | | | 15½ | | | | | | | | | | | | |
| 2 | .49½ | | | 21 | — | | | — | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21½ | | | | 17½ | | | | 15½ | | | | | | | | | | | | |
| % | | | | 70.5 | | | | 57.4 | | | | 50.8 | | | | | | | | | | | | |

Taken down 2 p.m.

| 15 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 21½ | .48 | | | 18 | — | | | — | | | | | | | | | | | | |
| 2 | .50 | | | 23 | .49¼ | | | 19½ | .48¾ | | | 17¾ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22¼ | | | | 18¾ | | | | 17¾ | | | | | | | | | | | | |
| % | | | | 74.7 | | | | 64.7 | | | | 61.2 | | | | | | | | | | | | |

Taken down 1 p.m. 1/10/96

ORDER NO. 146 Ed. #14

At 30½ Candles. Test Started 10 30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 113½ | .52½ | taken down 7.10 pm 12/11/96 | 100 | — | 102 | .45 1/4 |
| 2 | 117 | .52 | 7.55 a.m. 12.11.96 | 24.25 | 1 | 105½ | .45 |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 115¼ | .5225 | | | | 103¾ | .4637 |

1 — 2 — +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At 30½ Candles. | 378 |

ORDER NO. 147 Ed. #15

At 29 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

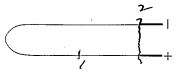
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1. | 112¼ | .50½ | 10.45 a.m. 12.12.96 | 51.45 | 1 | 101¾ | .44¾ |
| 2 | 111 | .57½ | Taken down 12.17.96 7.10 pm | 100 | | 100¾ | .45½ |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 112.62 | .57 | | | | 101¼ | .4572 |

1 — 1 — +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

| 16 | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48½ | | | 25 | .47 | | | 19¾ | .48½ | | | 17 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 25 | | | | 19¾ | | | | 17 | | | | | | | | | | | | |
| % | | | | 86.2 | | | | 68.1 | | | | 58.6 | | | | | | | | | | | | |

ORDER No. 148 Ed: #16




At 29 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. UNIFORMITY. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 3/4 | .57 | 10.20 a.m. 12.17.96 | 93.10 | 2 | | 101 1/4 | .45 |
| 2 | 114 1/4 | .57 1/2 | 11.55 a.m. 12.8.96 | 6.25 | 1 | | 103 3/4 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113 | .5125 | | 49.68 | | | 102.5 | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29 Candles. | 37 1/2 |

**Lamp Test Notebook #2, E-1735, 1896-1898**

This notebook covers the periods December 1896-February 1897 and November 1897-January 1898. It is the second of four books used by an unidentified experimenter to record lamp tests, nos. 1-302. This book contains tests, nos. 149-300. Each test lists the amperes, volts, and candlepower used. Most of the lamps tested are designated as "Edison" lamps, although there a few that are listed as "Aylsworth" and "Edison Jr." There are several loose pages of material, including instructions for the tests from Edison to Dally (probably Charles Dally), and a letter to Edison, February 4, 1898, by Wilson Howell of the Lamp Testing Bureau, Association of Edison Illuminating Companies. The front cover is marked "Orders. Book 2. 149 to ." The pages are unnumbered. Approximately 150 pages have been used. Numerous items have been pasted into the book.

| 17 | 1pm. 12.9.96 | | | | 10am. 12.11.96 | | | | 3pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49½ | | | 20 | .48½ | | | 18 | .48 | | | 16½ | | | | | | | | | | | | |
| 2 | .49½ | | | 22½ | .49 | | | 19½ | .48 | | | 16½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21¼ | | | | 18.87 | | | | 16½ | | | | | | | | | | | | |
| % | | | | 72.9 | | | | 65.6 | | | | 57.4 | | | | | | | | | | | | |

Take down
12/17/96

ORDER No. 149 Ed. #17

At 28 3/4 Candles. Test Started 10:30 am 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 1/4 | .52 | Taken down 7:10 pm 12/1/96 | 100 — | | | 99 | .46 |
| 2 | 111 | .57 | | 100. — | | | 101 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.62 | .575 | | 100 — | | | 100 | .455 |

—|

—+

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28 3/4 Candles. | 379 |

18

| | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | ·49 | | | 20½ | ·48 | | | 17¼ | ·47½ | | | 16 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20½ | | | | 17¼ | | | | 16 | | | | | | | | | | | | |
| % | | | | 74.5 | | | | 64.5 | | | | 58.2 | | | | | | | | | | | | |

Letter sent 12/17/96

19 Rabbit L.

| | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | ·48½ | | | 22¾ | ·47¼ | | | 18½ | ·46¾ | | | 17½ | | | | | | | | | | | | |
| 2 | ·49 | | | 21¾ | ·48 | | | 18½ | ·47½ | | | 17 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22¼ | | | | 18½ | | | | 17.38 | | | | | | | | | | | | |
| % | | | | 80.9 | | | | 67.3 | | | | 63.2 | | | | | | | | | | | | |

Letter sent 12/17/96

ORDER No. 150 Ed. # 18

At 27½ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107½ | .50½ | Fell down 12.17.96 7.10 pm. | 100 — | — | | 98½ | .45 |
| 2 | 107½ | .50½ | 8.10 pm. 12.8.96 | 12.40 | 1 | | 98½ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107½ | .50½ | | ✓ | | | 98½ | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 377 |

ORDER No. 151 Ed. #19

At 27½ Candles. Test Started 10.30 am 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .49¾ | Fell down 7.10 pm 12.17.96 | 100 — | | | 101 | .44¼ |
| 2 | 108 | .50 | | 100 — | | | 98½ | .44¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 | .4987 | | 100 — | | | 99¾ | .445 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 377 |

| 20 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | ~~7.10 p.m. 12.17.96~~ | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | ~~40~~ | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | — | | | — | — | | | — | — | | | — | | | | | | | | | | | | |
| 2 | .50 | | | 23 3/4 | .49 | | | 19 1/2 | .46 1/2 | | | 19 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23 3/4 | | | | 19 1/2 | | | | 19 | | | | | | | | | | | | |
| % | | | | 83.3 | | | | 68.4 | | | | 66.7 | | | | | | | | | | | | |

| 21 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | 7.10 p.m. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 L. | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 24 1/2 | .48 | | | 21 | .47 1/2 | | | 19 | — | | | — | | | | | | | | |
| 2 | .49 3/4 | | | 24 | .49 | | | 20 1/2 | .48 | | | 19 | .46 3/4 | | | 16 | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24.12 | | | | 20.62 | | | | 19 | | | | 16 | | | | | | | | |
| % | | | | 86.2 | | | | 73.6 | | | | 67.9 | | | | 57.2 | | | | | | | | |

ORDER No. 152 Ed: #20

At 28½ Candles. Test Started 10.30 a.m. 12.5.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 | .50¼ | 8.55 a.m. 12.8.96 | 3.25 | 1 | | 104 | .44 |
| 2 | 110½ | .50½ | 9.20 a.m. 12.15.96 | 64.40 | 2 | | 100½ | .44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112¼ | .5038 | | 34.02 | | | 102¼ | .4425 |

1 2

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 376 |

ORDER No. 153 Ed: #21

At 28 Candles. Test Started 10.30 a.m. 12.5.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109¼ | .50 | 7.45 a.m. 12.15.96 | 63.05 | 1 | | 100¼ | .44½ |
| 2 | 109 | .50½ | 4.30 P.M. 2-8-97 | 578.15 | 2 | | 100 | .44¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.12 | .5025 | | | | | 100.12 | .446 |

1 2

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 267 |
| At 28 Candles. | 378 |

| 23 | 1pm. 12.9.96 20 | | | | 10am. 12.11.96 40 | | | |
|---|---|---|---|---|---|---|---|---|
| No | A | | | C.P. | A | | | C.P. |
| 1. | .49½ | | | 22 | .48 | | | 17⅞ |
| 2. | .49 | | | 18¼ | .47½ | | | 14 |
| Ave. | | | | 20.12 | | | | 15.87 |
| % | | | | 75.3 | | | | 59.7 |

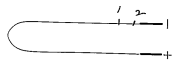
| 24 GOOD L. | 1pm. 12.9.96 20 | | | | 10am. 12.11.96 40 | | | | 3pm. 12.14.96 60 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50½ | | | 22 | .49½ | | | 18½ | .48¾ | | | 16½ |
| 2 | .50 | | | 22 | .48¼ | | | 16¼ | .47 | | | 14⅞ |
| 3 | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | |
| Ave. | | | | 22 | | | | 17.38 | | | | 15.42 |
| % | | | | 78.6 | | | | 62.1 | | | | 55.9 |

Taken down 12/1/96

ORDER No. 154 Ed. #23

At $26\frac{3}{4}$ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $106\frac{1}{2}$ | .57 | 10.10 pm. 12.11.96 | 47.40 | 2 | | $98\frac{1}{4}$ | $.45\frac{1}{2}$ |
| 2 | $96\frac{1}{4}$ | $.51\frac{1}{4}$ | 3.10 pm. 12.11.96 | 41.40 | 1 | | 90 | .47 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 101.38 | .5112 | | 44.40 | | | 94.12 | .4625 |

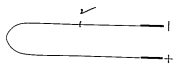



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 274 |
| At $26\frac{3}{4}$ Candles. | 385 |

ORDER No. 155 Ed. #24

At 28 Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .57 | 7.40 pm 12.12.96 | 100 | | | $98\frac{1}{2}$ | .45 |
| 2 | 112 | .57 | 8.15 am. 12.16.96 | 77.35 | 1 | | $101\frac{3}{4}$ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110 | .51 | ✓ | | | | 100.12 | .45 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 372 |

| 25 | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m/L | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 23½ | .49 | | | 19¾ | .48 | | | 18 | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23½ | | | | 19¾ | | | | 18 | | | | | | | | | | | | |
| % | | | | 51 | | | | 68.1 | | | | 62.1 | | | | | | | | | | | | |

Incubator 7 pm - 12/17/96

| 26 | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | 7.10 pm. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 20¼ | .50 | | | 19½ | .49 | | | 17¾ | .48½ | | | 15¼ | | | | | | | | |
| 2 | .49 | | | 24¾ | .48 | | | 21 | .47 | | | 19½ | .45¾ | | | 16¾ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.62 | | | | 20¼ | | | | 18.62 | | | | 16 | | | | | | | | |
| % | | | | 78.7 | | | | 70.4 | | | | 64.8 | | | | 55.6 | | | | | | | | |

ORDER No. 156 Ed. #26

At 29 Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 111¼ | .51½ | Sakundan 7.10pm 12.17.96 | 100.- | | 101 | .45¼ |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | | | | | | | |

1 +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

ORDER No. 157 Ed. #26

At 28¾ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 108¼ | .52 | 10.AM 1-19-97 | 378.05 | 2 | 98¾ | .46 |
| 2 | 110 | .50¼ | 8.40am. 12.28.96 | 175.30 | 1 | 100½ | .45 |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 109.12 | .5113 | | | | 99.6 | .455 |

1 2 +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28¾ Candles. | 385 |

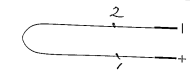
| 27 | 1 pm. 12.9.96. | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | 7.10 pm. 12.17.96 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | |
| № | A | | | C.P. | A | | | C.P. | A | | | C.P. | A | | | C.P. |
| 1 | – | | | – | – | | | – | – | | | – | – | | | – |
| 2 | .49 | | | 23 | .48 | | | 19½ | .47½ | | | 18¾ | .46½ | | | 14½ |
| Ave. | | | | 23 | | | | 19½ | | | | 18¾ | | | | 14½ |
| % | | | | 83.6 | | | | 70 | | | | 68.2 | | | | 52.7 |

| 28 | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | 7.10 pm. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49½ | | | 22½ | – | | | | – | | | | – | | | | | | | | | | | |
| 2 | .50 | | | 23¾ | .49 | | | 19½ | .48 | | | 17½ | .46½ | | | – | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | 14 | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23/2 | | | | 19½ | | | | 17½ | | | | 14 | | | | | | | | |
| % | | | | 84.1 | | | | 70.9 | | | | 63.6 | | | | 50.9 | | | | | | | | |

ORDER No. 158 Ed. #27

At 27½ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106¼ | .57 | 2.40pm. 12.8.96 | 8.10 | 1 | | 97 | .45 |
| 2 | 109½ | .50 | 1.30pm. 12.23.96 | 155.35 | 2 | | 100½ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.87 | .505 | | 81.72 | | | 98.75 | .45 |

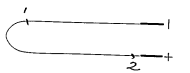



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 371 |

ORDER No. 159 Ed. #28

At 27½ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108½ | .50¾ | 8.15am. 12.11.96 | 24.45 | 1 | | 98½ | .44¾ |
| 2 | 109¾ | .50½ | 1.15pm. 1.6.97 | 259.20 | 2 | | 99¾ | .44¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | 28 284.05 / 142.01 |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.12 | .5063 | | 142.01 | | | 99.12 | .4475 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 371 |

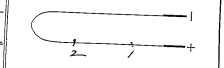
| 29 | 1 p.m. 12.9.96 | | | | 10am. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | 7.10 p.m. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOOD L. | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49½ | | | 24½ | .48½ | | | 20 | .48 | | | 18 | .46½ | | | 14¾ | — | — | — | | | | | |
| 2 | .49 | | | 23 | .48½ | | | 19 | .48 | | | 17½ | .46½ | | | 14¼ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23¾ | | | | 19½ | | | | 17¾ | | | | 14½ | | | | | | | | |
| % | | | | 87.2 | | | | 71.6 | | | | 65.1 | | | | 53.2 | | | | | | | | |

| 30 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | 7.10 p.m. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GOOD L. | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 24¾ | .49½ | | | 21 | .48½ | | | 19½ | .46½ | | | 18¾ | | | | | | | | |
| 2 | .51 | | | 23¾ | .50 | | | 19½ | .49 | | | 17½ | — | | | — | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24½ | | | | 20½ | | | | 18½ | | | | 18¾ | | | | | | | | |
| % | | | | 83.6 | | | | 69.8 | | | | 63.8 | | | | 54.3 | | | | | | | | |

ORDER No. 160 Ed. #29

At 27¼ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110¼ | .49¼ | 8.30 am. 12.23.96 | 151.20 | 1 | | 100¾ | .44 |
| 2 | 109¼ | .49½ | 11.15 am. 1.9.97 | 306.20 | 2 | | 100 | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 3/24 | .4938 | | 228.50 | | | 100.38 | .44 |

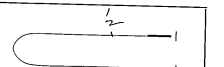



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 270 |
| At 27¼ Candles. | 376 |

ORDER No. 161 Ed. 30

At 29 Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .52 | 5 pm. 12.30.96 | 205.35 | 2 | | 100 | .45 5/24 |
| 2 | 109½ | .52½ | 7.40 am. 12.17.96 | 90.30 | 1 | | 99½ | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109¾ | .5225 | | 148.25 | | | 99¾ | .459 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

| 31 1000 L. | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49½ | | | 24½ | .48½ | | | 19¾ | .48 | | | 18½ | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24½ | | | | 19¾ | | | | 18½ | | | | | | | | | | | | |
| % | | | | 87.5 | | | | 70.5 | | | | 66.1 | | | | | | | | | | | | |

Jackson
12/17/96

| 32 1000 L. | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | 7.10 pm. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 24 | .49 | | | 20 | .48 | | | 18¾ | .46¾ | | | 15 | | | | | | | | |
| 2 | .51 | | | 24½ | .50 | | | 20 | .49½ | | | 18 | .48¾ | | | 15 | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24.12 | | | | 20 | | | | 18.12 | | | | 15 | | | | | | | | |
| % | | | | 86.2 | | | | 71.4 | | | | 64.7 | | | | 53.6 | | | | | | | | |

ORDER No. 162 Ed. #31

At 28 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .57 | | | | | 100½ | .45 |
| 2 | 107¾ | .57¼ | 5.30 p.m. 12.8.96 (filament) | 11.— | 1 | | 98 | .45½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.63 | .5712 | ✓ | | | | 99¼ | .4525 |

—|
—+

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 375 |

bulb same as #44' - Same Range.

ORDER No. 163 Ed. #32

At 28 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110¼ | .50 | 3.00 p.m. 12.22.96 | 143.20 | 1 | | 100 | .44 |
| 2 | 111¼ | .52 | 6.05 PM 1-21-97 | 412.10 | 2 | | 101 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110¾ | .57 | | | | | 100½ | .445 |

1 —|
2 —+

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 267 |
| At 28 Candles. | 370 |

| 34 | 1 pm. 12.9.96 | | | | 10 am. 12.11.96 | | | | 3 pm. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L. | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48½ | | | 22 | .47½ | | | 18½ | | | | | | | | | | | | | | | | |
| 2 | .47¾ | | | 23 | .47 | | | 19½ | .46 | | | 17½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22½ | | | | 19.12 | | | | 17½ | | | | | | | | | | | | |
| % | | | | 83.7 | | | | 70.8 | | | | 63.9 | | | | | | | | | | | | |

Letter down
12/17/96

ORDER No. 164 Ed. #33

At 29 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113½ | .50 | 12.05 p.m. 12.5.96 | 1.35 | 1 | | 103 | .444 |
| 2 | 113 | .51 | 12.30 p.m. 12.5.96 | 2. | 2 | | 103 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113¼ | .505 | | 1.48 | | | 103 | .445 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

ORDER No. 165 Ed. #34

At 27 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108¾ | .49½ | 10.40 a.m. 12.12.96 | 51.40 | 1 | | 100 | .44 |
| 2 | 109¼ | .48½ | 7.10 p.m. 12.12.96 Taken down | 100 — | | | 101 | .43½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 | .49 | | — | | | 100½ | .4375 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 272 |
| At 27 Candles. | 378 |

35

| No. | 1 p.m. 12.9.96 20 A | R | V | C.P. | 10 a.m. 12.11.96 40 A | R | V | C.P. | 3 p.m. 12.14.96 60 A | R | V | C.P. | 7.10 p.m. 12.17.96 100 A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49½ | | | 25½ | .48½ | | | .21 | .48 | | | .19 | .44¼ | | | 15¾ | — | | | — | | | | |
| 2 | .50¼ | | | 24½ | .45½ | | | 20½ | .48¾ | | | 18¼ | .47¾ | | | 15¼ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 25 | | | | 20¾ | | | | 18¼ | | | | 15½ | | | | | | | | |
| % | | | | 89.5 | | | | 74.1 | | | | 66.5 | | | | 55.4 | | | | | | | | |

36

| No. | 1 p.m. 12.9.96 20 A | R | V | C.P. | 10 a.m. 12.11.96 40 A | R | V | C.P. | 3 p.m. 12.14.96 60 A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .50 | | | 24 | .49 | | | 20 | .48 | | | 16¼ | — | | | — | | | | | | | | |
| 2 | .53½ | | | 23 | .52¼ | | | 19¾ | .52 | | | 18¼ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23½ | | | | 19.87 | | | | 18½ | | | | | | | | | | | | |
| % | | | | 78.3 | | | | 66.2 | | | | 61.7 | | | | | | | | | | | | |

Tendon broken
4/10/96

ORDER No. 166 Ed. # 35

At 28 Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .50 | 10 a.m. 12.18.96 | 106.20 | 1 | | 100 | .44 |
| 2 | 111½ | .57 | 8.05 a.m. 1.4.97 | 231.55 | 2 | | 102 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110½ | .505 | | 169.07 | | | 101 | .445 |

1 — 1
2 — +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 375 |

ORDER No. 167 Ed. # 36

At 30 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 | .52 | 7.50 a.m. 12.15.96 | 63.10 | 1 | | 101 | .45½ |
| 2 | 108 | .54 | Taken down 12/7/96 7.30 p.m. | 100.— | | | 98¼ | .48 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109½ | .53 | | — | | | 99.62 | .4675 |

1 — 1
— +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At 30 Candles. | 387 |

37

| | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | – | | | – | – | | | – | – | | | – | | | | | | | | | | | | |
| 2 | .50 | | | 20¾ | .49¾ | | | 18½ | .48½ | | | 16 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20¾ | | | | 18½ | | | | 16 | | | | | | | | | | | | |
| % | | | | 71.6 | | | | 63.8 | | | | 55.2 | | | | | | | | | | | | |

38

| | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | 7.10 p.m. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (000 L.) | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 21½ | .50 | | | 20 | .49½ | | | 18¾ | .48¾ | | | 16½ | | | | | | | | |
| 2 | .49½ | | | 24¾ | .49 | | | 21 | .48 | | | 19½ | .46¾ | | | 16½ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23.12 | | | | 20½ | | | | 19 | | | | 16½ | | | | | | | | |
| % | | | | 81.1 | | | | 71.9 | | | | 66.7 | | | | 57 | | | | | | | | |

ORDER No. 168 Ed. #37

At 29 Candles. Test Started 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 112½ | .50 | 3.20pm. 12.8.96 | 8.50 | 1 | 102¾ | .44½ |
| 2 | 108 | .52¼ | 5.15pm. 12.15.96 | 71.35 | 2 | 99 | .46¾ |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 110¼ | .5112 | | 40.12 | | 100.87 | .454 |

1 2 +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 383 |

ORDER No. 169 Ed. #38

At 28½ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 108½ | .52½ | 8.30am. 1.12.97 | 316.05 | 2 | 98¾ | .46¾ |
| 2 | 108¼ | .50½ | 3.50pm. 12.18.96 | 111.10 | 1 | 98½ | .45 |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 108.38 | .515 | | 213.38 | | 98.62 | .459 |

2 1 +

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 382 |

| 40 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.12.96 | | | | 7.10 p.m. 12.17.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | $\bar{.50}$ | | | $\bar{24\frac{3}{4}}$ | $\bar{.49}$ | | | $\bar{20\frac{1}{2}}$ | $\bar{.48\frac{1}{2}}$ | | | $\bar{18\frac{3}{4}}$ | $\bar{.47\frac{1}{4}}$ | | | $\bar{15\frac{3}{4}}$ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | $24\frac{3}{4}$ | | | | $20\frac{1}{2}$ | | | | $18\frac{3}{4}$ | | | | $15\frac{3}{4}$ | | | | | | | | |
| % | | | | 88.4 | | | | 73.2 | | | | 67 | | | | 56.3 | | | | | | | | |

ORDER No. 170 Ed. #40

At 28 Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113½ | .48 | 1.20 pm. 12.8.96 | 6.50 | 1 | | 103½ | .43 |
| 2 | 110¼ | .50½ | 2.50 pm. 1.12.97 | 321.25 | 2 | | 100½ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.87 | .4925 | | 164.07 | | | 102 | .44 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 378 |

ORDER No. 171 Ed. #41

At 27½ Candles. Test Started 10.30 am. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112¾ | .48½ | 9.50 am. 12.8.96 | 4.20 | | | 103¼ | .43 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 4.20 | | | | |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 371 |

| 42 1000 L. | 1 p.m. 12.9.96 20 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49½ | | | 18 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 55.4 | | | | | | | | | | | | | | | | | | | | |

| 43 1000 L. | 1 p.m. 12.9.96 20 | | | | 10 a.m. 12.11.96 40 | | | | 3 p.m. 12.14.96 60 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48 | | | 22½ | .47 | | | 17 | .46½ | | | 16½ | | | | | | | | | | | | |
| 2 | .46 | | | 21½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22 | | | | 17 | | | | 16½ | | | | | | | | | | | | |
| % | | | | 80 | | | | 61.8 | | | | 60.9 | | | | | | | | | | | | |

Taken down 12/12/96

ORDER No. 172 Ed. #42

At 32½ Candles. Test Started 10.20 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 118½ | .56 | 7.35 p.m. 12.9.96 | 20.40 | 2 | | 105 | .47½ |
| 2 | 114¼ | .56 | 2.30 p.m. 12.8.96 | 8.— | 1 | | 101¼ | .47½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 116.38 | .56 | | 14.20 | | | 103.12 | .475 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 243 |
| At 32½ Candles. | 370 |

ORDER No. 173 Ed. #43

At 27½ Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | .50 | Taken down 12/7/96 7.10 p.m. | 100.— | | | 99¾ | .45 |
| 2 | 109 | .49 | 7.55 a.m. 12.10.96 | 24.25 | 1 | | 100 | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 | .495 | | — | | | 99.88 | .445 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 379 |

44

| | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | – | | | – | – | | | – | | | | | | | | | | | | | | | | |
| 2 | $147\frac{3}{4}$ | | | $24\frac{3}{4}$ | $46\frac{1}{2}$ | | | 21 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | $24\frac{3}{4}$ | | | | 21 | | | | | | | | | | | | | | | | |
| % | | | | 90.5 | | | | 77 | | | | | | | | | | | | | | | | |

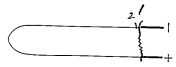
45

| | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 20 | $.48\frac{1}{2}$ | | | 15 | | | | | | | | | | | | | | | | |
| 2 | $.51\frac{3}{4}$ | | | 16 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18 | | | | 15 | | | | | | | | | | | | | | | | |
| % | | | | 54.5 | | | | 45.5 | | | | | | | | | | | | | | | | |

ORDER No. 174 Ed: #44

At 27¼ Candles. Test Started 10.30 a.m. 12.5.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | At Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .50½ | 3.30 p.m. 12.8.96 | 9.00 | 1 | | 98½ | .44 |
| 2 | 110 | .50 | 10.30 a.m. 12.14.96 | 56.10 | 2 | | 100½ | .44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109 | .5025 | | 32.35 | | | 99½ | .4425 |



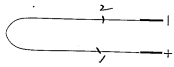

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 270 |
| At 27¼ Candles. | 365 |

Broke before burnt 2 p.m. 12 p.m. 12 p.m.

ORDER No. 175 Ed: #45

At 33 Candles. Test Started 10.30 a.m. 12.5.96

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113¼ | .54 | 8.20 p.m. 12.11.96 | 45.50 | 2 | | 100½ | .46 |
| 2 | 120 | .58 | 8.45 p.m. 12.9.96 | 22.15 | 1 | | 106½ | .50 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 116.62 | .56 | | 34.02 | | | 103½ | .48 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 240 |
| At 33 Candles. | 376 |

| 46 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .52½ | | | 21¾ | .51½ | | | 18 | | | | | | | | | | | | | | | | |
| 2 | .51½ | | | 23½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.42 | | | | 18 | | | | | | | | | | | | | | | | |
| % | | | | 77.3 | | | | 61.5 | | | | | | | | | | | | | | | | |

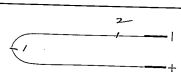
| 47 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 23½ | .49 | | | 19 | .48 | | | 17¼ | | | | | | | | | | | | |
| 2 | .54¼ | | | 23 | .52½ | | | 19½ | .51½ | | | 17¾ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23¼ | | | | 19¼ | | | | 17½ | | | | | | | | | | | | |
| % | | | | 80.2 | | | | 66.4 | | | | 60.3 | | | | | | | | | | | | |

Lathrop
12/17/96

ORDER No. 176 Ed. #46

At 29¼ Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .54 | 2.50 p.m. 12.14.96 | 59.50 | 2 | | 97½ | .47 |
| 2 | 111 | .53½ | 7.15 a.m. 12.10.96 | 23.45 | 1 | | 100½ | .46¼ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109½ | .5375 | | 41.47 | | | 99 | .4662 |

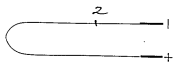



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 371 |

ORDER No. 177 Ed. #47

At 29 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109½ | .50¾ | Taken down 12.17.96 7.10 p.m. | 100 — | | | 99¼ | .45 |
| 2 | 108 | .54 | 10.10 p.m. 12.16.96 | 89.20 | 1 | | 97½ | .48 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108¾ | .5237 | | — | | | 98.38 | .465 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 389 |

| 48 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 7.10 p.m. 12.14.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49½ | | | 20 | .48½ | | | 18 | .47½ | | | 16½ | | | | | | | | |
| 2 | .49½ | | | 20½ | .48½ | | | 18½ | — | | | — | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20½ | | | | 18.12 | | | | 16½ | | | | | | | | |
| % | | | | 49.8 | | | | 64.7 | | | | 58 | | | | | | | | |

Tak. [illegible]

| 49 | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | 7.10 p.m. 12.17.96 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | — | | | — | — | | | — | — | | | — | — | | | — | | | | |
| 2 | .50½ | | | 23½ | .50 | | | 19½ | .49½ | | | 18½ | .47½ | | | 15 | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23½ | | | | 19½ | | | | 18½ | | | | 15 | | | | |
| % | | | | 53.2 | | | | 69 | | | | 64.6 | | | | 53.1 | | | | |

ORDER No. 178 Ed. #48

At 28 Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108½ | .50½ | Taken down 12/11/96 1.10 p.m. | 100 | | | 98¾ | .45 |
| 2 | 107½ | .57 | 11.55 a.m. 12.12.96 | 52.55 | 1 | | 98¼ | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108 | .5075 | | | | | 98½ | .455 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 381 |

ORDER No. 179 Ed. #49

At 28¼ Candles. Test Started 10.30 a.m. 12.5.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | .49 | 11.45 a.m. 12.9.96 | 19.45 | 1 | | 99 | .44 |
| 2 | 111½ | .52 | 10.05 p.m. 1.6.97 | 267.10 | 2 | | 101¾ | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110¼ | .505 | | 143.27 | | | 100.38 | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28¼ Candles. | 379 |

| 50 mgs. | 1 p.m. 12.9.96 | | | | 10 a.m. 12.11.96 | | | | 3 p.m. 12.14.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 23¾ | .48 | | | 19¼ | .47 | | | 17 | | | | | | | | | | | | |
| 2 | .47¾ | | | 20½ | – | | | — | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.12 | | | | 19¼ | | | | 17 | | | | | | | | | | | | |
| % | | | | 79 | | | | 68.7 | | | | 60.7 | | | | | | | | | | | | |

Jackenthorn
7 p.m. 12 11 96

| 200 | 9.15 a.m. 12.19.96 | | | | 8 a.m. 12.22.96 | | | | 11.40 a.m. 12.28.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22½ | | | | 40 | | | | 80 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | — | | | — | | | | | – | – | | – | | | | | | | | | | | | |
| 2 | .31 | | | 11 | .30 | | | 10 | .29½ | | | 9 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11 | | | | 10 | | | | 9 | | | | | | | | | | | | |
| % | | | | 62.9 | | | | 57.1 | | | | 51.4 | | | | | | | | | | | | |

ORDER No. 180 Ed. #50

At 28 Candles. Test Started 10.30 a.m. 12.5.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 110 | .50½ | Fallen down 12.17.96 7.10 p.m. | 100 | | 100½ | .45 |
| 2 | 108 | .51 | 5.35 p.m. 12.10.96 | 31.05 | 1 | 98½ | .45 |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 109 | .5075 | — | | | 99½ | .45 |



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 378 |

ORDER No. 181 Ed. 205 Ba

At 17½ Candles. Test Started 3.15 p.m. 12.17.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|
| 1 | 103¾ | .34 | 9.35 p.m. 12.17.96 | 5.20 | 2 | 102 | .33 |
| 2 | 104 | .33½ | 12 m. 1.2.97 | 130.15 | 3 | 102½ | .33 |
| 3 | 103¾ | .34 | 8.05 p.m. 12.17.96 | 4.30 | 1 | 102 | .33 |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| Avg. | 103.83 | .338 | | 46.42 | | 102.17 | .33 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 354 |
| At 17½ Candles. | 371 |

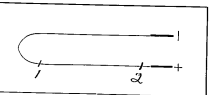
| 205H | 9.15 a.m. 12.19.96 | | | | 8 a.m. 12.22.96 | | | | 11.40 a.m. 12.28.96 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22.30 | | | | 40 | | | | 80 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .31 | | | 11 | .30 | | | 9 4/7 | .29 1/7 | | | 8 4/7 | | | | | | | | | | | | |
| 2 | .31 | | | 10 2/7 | .30 1/2 | | | 9 4/7 | .30 | | | 8 4/7 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 10.87 | | | | 9 4/7 | | | | 8 4/7 | | | | | | | | | | | | |
| % | | | | 65.3 | | | | 55.5 | | | | 49.5 | | | | | | | | | | | | |

| 205H | 9.15 a.m. 12.19.96 | | | | 8 a.m. 12.22.96 | | | | 11.40 a.m. 12.28.96 | | | | 10 a.m. 12.31.96 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22 1/2 | | | | 40 | | | | 80 | | | | 112'45" | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .28 1/2 | | | 9 | .28 | | | 8 4/7 | .28 | | | 7 5/7 | .27 1/2 | | | 7 1/2 | | | | | | | | |
| 2 | .28 | | | 7 | .27 3/4 | | | 6 3/4 | .27 | | | 6 1/2 | .27 | | | 6 | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 8 | | | | 7 1/2 | | | | 7.12 | | | | 6 3/4 | | | | | | | | |
| % | | | | 100 | | | | 93.8 | | | | 89.1 | | | | 84.4 | | | | | | | | |

ORDER No. 182 Ld. 205 H

At $16\frac{2}{3}$ Candles. Test Started 3.15 Pm. 12.17.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $101\frac{1}{4}$ | .33 | 7.15 PM 2-1-97 | 330.00 | 2 | | $100\frac{1}{4}$ | $.32\frac{1}{2}$ |
| 2 | $101\frac{1}{4}$ | $.33\frac{1}{2}$ | 1-45 PM 1-27-97 | 324.15 | 1 | | 100 | $.32\frac{1}{2}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $101\frac{1}{4}$ | .3325 | | | | | 100.12 | .3225 |

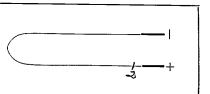



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 366 |
| At $16\frac{2}{3}$ Candles. | 362 |

ORDER No. 183 Ld. 205 I

At Candles. Test Started 3.15 Pm. 12.17.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 8 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | $96\frac{1}{4}$ | $.27\frac{1}{4}$ |
| 2 | | | 11.25 AM. 2-25-97 | 738.25 | 1 | | $93\frac{1}{2}$ | .29 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 94.87 | .2812 |




| | Candles per H. P. |
|---|---|
| At 8 Candles. | 224 |
| At Candles. | |

| 208th | 9.15 am. 12.19.56 | | | | 8 am. 12.22.56 | | | 11.40 am. 12.28.56 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 22½ | | | | 40 | | | 80 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .32 | | | 11½ | .31½ | | | 10¼ | .30¾ | | | 9¼ | | | | | | | | | | | |
| 2 | .31½ | | | 11 | .30¾ | | | 9½ | .30 | | | 8¼ | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11¼ | | | | 9.87 | | | | 8¾ | | | | | | | | | | | |
| % | | | | 65.2 | | | | 57.2 | | | | 50.7 | | | | | | | | | | | |

ORDER No. 184 Sd: 205 J

At 22 Candles. Test Started 3.15 pm. 12.17.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 124¼ | .35½ | 4.10 pm. 12.17.96 | .55 | 1 | | 116½ | .33 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 124¼ | .35½ | | .55 | | | 116½ | .33 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 310 |
| At 22 Candles. | 372 |

ORDER No. 185 Sd. 205 K

At 17¼ Candles. Test Started 3.15 pm. 12.17.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 105 | | 4.20 pm. 1.12.97 | 209.05 | 1 | | 103 | .33 |
| 2 | 102 | | 11.50 am. 1.14.97 | 231.35 | 2 | | 100¼ | .33 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 103½ | | | 220.20 | | | 101.62 | .33 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 355 |
| At 17¼ Candles. | 369 |

| 20 Sept. L. | 10.30 am. 12.18.96 | | | | 8.30 am 12.22.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .31 2/7 | | | 13 | .30 4/7 | | | 10 2/7 | | | | | | | | | | | | | | | | |
| 2 | .31 1/2 | | | 11 1/2 | .30 | | | 10 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 12 1/4 | | | | 10 4/7 | | | | | | | | | | | | | | | | |
| % | | | | 45.8 | | | | 38.3 | | | | | | | | | | | | | | | | |

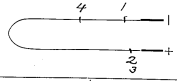
| 44 Good L. | 11 am. 12.29.96 | | | | 10 am. 12.31.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40.20" | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48 1/2 | | | 24 3/4 | .47 | | | 21 | | | | | | | | | | | | | | | | |
| 2 | .47 | | | 23 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23.88 | | | | 21 | | | | | | | | | | | | | | | | |
| % | | | | 82.3 | | | | 72.4 | | | | | | | | | | | | | | | | |

ORDER No. 186 Ed: 205 I

At 1½ Watts

At 26¾ Candles. Test Started 3.15 pm. 12.17.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .37½ | 1.15 pm. 12.22.96 | 43.05 | 3 | | 100½ | |
| 2 | 111 | .37 | 8.35 am 12.18.96 | 8.05 | 1 | | 101 | |
| 3 | 110¼ | .36 | 8.45 pm 12.18.96 | 17.45 | 2 | | 100½ | |
| 4 | 108½ | .36½ | 10.30 am 12.24.96 | 71.20 | 4 | | 99 | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.94 | .3675 | | 37.54 | | | 100¼ | .32¼ |

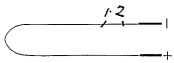



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 370 |
| At 26¾ Candles. | 495 |

ORDER No. 187 Ed 44 A

At 29 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110¼ | .52 | 10.50 am 1.4.97 | 61.55 | 2 | | 100½ | .45½ |
| 2 | 112¾ | .51 | 2.45 pm 12.29.96 | 20.35 | 1 | | 102¼ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111½ | .51½ | | 41.15 | | | 101.37 | .45¼ |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

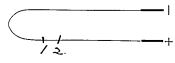
| 51 | 11 a.m. 12.29.96 | | | | 10 a.m. 12.31.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L. | 20 | | | | 40' 10" | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 23 | .48 3/4 | | | 18 1/2 | | | | | | | | | | | | | | | | |
| 2 | .49 | | | 21 1/2 | .47 | | | 17 1/4 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22 1/4 | | | | 17.87 | | | | | | | | | | | | | | | | |
| % | | | | 76.7 | | | | 61.6 | | | | | | | | | | | | | | | | |

| 52 | 11 a.m. 12.29.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 600 L. | 20 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .52 | | | 22 1/2 | | | | | | | | | | | | | | | | | | | | |
| 2 | .53 | | | 20 1/2 | — | | | — | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21 1/2 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 67.7 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 188 Ed. #57

At 29 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113 | .57¼ | 9 am. 1.15.97 | 168.35 | 1 | | 102½ | .45 |
| 2 | 112 | .57 | 9.30 AM 1-22-97 | 230.20 | 2 | | 101¾ | .44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112½ | .5712 | | | | | 102.12 | .44¾ |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

ORDER No. 189 Ed. #52

At 31¾ Candles. Test Started 2.15 pm 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112½ | .54 3/16 | 6.05 pm. 1-6.97 | 91.25 | 2 | | 101½ | .47 |
| 2 | 115½ | .56 | 11.50 am Jan. 1.97 | 52.55 | 1 | | 103 | .47¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114 | .5538 | | 72.10 | | | 102¼ | .4738 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 246 |
| At 31¾ Candles. | 375 |

S3 11 a.m. 12.29.96
Gill s. 20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 47 | | | 19½ | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 667 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 190 Ed. #53

At 29¼ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109¾ | .53 | 4.10 pm. 12.30.96 | 32.— | 2 | | 99¼ | .46¾ |
| 2 | 111 | .52 | 2.35 pm. 12.28.96 | 9.50 | 1 | | 100¾ | .45½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.38 | .52½ | | 20.55 | | | 100 | .4612 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 377 |

N.B. 191 - Ed. 54 - Too high for reading -

ORDER No. 192. Ed. 55

At 29½ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .53 | 3.30 pm. 12.24.96 | 1.15 | 1 | | 101 | .46 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112 | .53 | | 1.15 | | | 101 | .46 |

Burnt'd

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 372 |

Ared

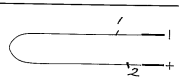
| 56 | 11 a.m. 12.29.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6500 L. | 20 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .48 | | | 23 1/4 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 23 1/4 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 78.8 | | | | | | | | | | | | | | | | | | | | |

| 57 | 11 a.m. 12.29.96 | | | | 10 a.m. 12.31.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40.20 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48 | | | 22 | .46 1/2 | | | 19 1/2 | | | | | | | | | | | | | | | | |
| 2 | .48 | | | 22 1/2 | .46 1/2 | | | 18 3/4 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 22.12 | | | | 18 3/4 | | | | | | | | | | | | | | | | |
| % | | | | 76.9 | | | | 65.2 | | | | | | | | | | | | | | | | |

ORDER No. 193 Ed. 56

At 29½ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113½ | .50¾ | 10.20 am. 12.28.96 | 6.35 | 1 | | 103 | .44 |
| 2 | 112½ | .52¼ | 3.45 pm. 12.29.96 | 21.35 | 2 | | 102½ | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113.– | .51½ | | 14.05 | | | 102¾ | .45 |

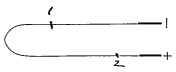



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 378 |

ORDER No. 194 Ed. #57

At 28¾ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115 | .49 | 11.10 am. 1.7.97 | 99.15 | 2 | | 105 | .43½ |
| 2 | 113¼ | .49 | 10.50 am. 1.5.97 | 71.10 | 1 | | 104 | .43½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114.12 | .49 | | 85.12 | | | 104½ | .43½ |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28¾ Candles. | 382 |

58 11am. 12.29.96

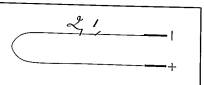
20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .50 | | | 21½ | | | | | | | | | | | | | | | | | | | | |
| 2 | .51 | | | 22¼ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21¾ | | | | | | | | | | | | | | | | | | | | |
| N | | | | 707 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 195 Ed: 58

At 30 3/4 Candles. Test Started 2.15 pm. 12.24.56 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 3/4 | .53 | 4.10 pm. 12.30.56 | 32 | 1 | | 103 1/4 | .46 |
| 2 | 114 1/4 | .53 | 1:15 AM 1-26-57 | 26235 | 2 | | 103 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114 1/2 | .53 | | | | | 103.12 | .46 |

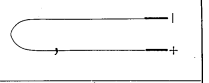



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 251 |
| At 30 3/4 Candles. | 378 |

ORDER No. 196 Ed. 59

At 29 3/4 Candles. Test Started 2.15 pm. 12.24.56 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 120 1/2 | .49 1/4 | 8.20 am 12.28.56 | 4.35 | 1 | | 109 | .42 3/4 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 120 1/4 | .49 1/4 | | | | | 109 | .42 3/4 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At 29 3/4 Candles. | 375 |

61 11am. 12.29.96

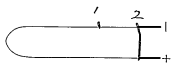
20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | | | 22 | | | | | | | | | | | | | | | | | | | | |
| 2 | .47 | | | 18½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avs. | | | | 20½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 69.8 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 197 Ed: #60

At $29\frac{3}{4}$ Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $112\frac{1}{2}$ | $.51\frac{3}{4}$ | 11 a.m. 12.29.96 | 20.00 | 2 | | $101\frac{3}{4}$ | .45 |
| 2 | 117 | .53 | 3.05 p.m. 12.24.96 | .50 | 1 | | 105 | $.45\frac{1}{4}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $114\frac{3}{4}$ | .5238 | | 10.25 | | | 103.37 | .4512 |



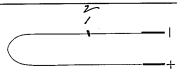

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At $29\frac{3}{4}$ Candles. | 369 |

Cred

ORDER No. 198 Ed: 61

At 29 Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $110\frac{1}{4}$ | .53 | 11.15 a.m. 1.4.97 | 62.20 | 1 | | $99\frac{1}{4}$ | $.45\frac{3}{4}$ |
| 2 | $112\frac{1}{2}$ | .51 | 11.20 a.m. 1.9.97 | 120.10 | 2 | | 102 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.38 | .52 | | 91.15 | | | 100.62 | .45 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 374 |

62

| | 11am.12.29.96 | | | | 10am.12.31.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40.20 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .48½ | | | 22½ | .47 | | | 19 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 22½ | | | | 19 | | | | | | | | | | | | | | | | |
| % | | | | 77.4 | | | | 66.1 | | | | | | | | | | | | | | | | |

63

| | 11am.12.29.96 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48 | | | 21½ | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 74.8 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 199 Ed. 62

At $28\frac{3}{4}$ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | Too high. | | | | | | | |
| 2 | $114\frac{1}{4}$ | $.50\frac{1}{4}$ | 4.05 pm. 12.31.96 | 43.55 | 1 | | $103\frac{1}{2}$ | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $114\frac{1}{4}$ | $.50\frac{1}{4}$ | | 43.55 | | | $103\frac{1}{2}$ | .44 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At $28\frac{3}{4}$ Candles. | 374 |

ORDER No. 200 Ed: 63

At $28\frac{3}{4}$ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $115\frac{1}{2}$ | .50 | 2.50 pm. 1.20.97 | 208.50 | 2 | | 105 | $.43\frac{3}{4}$ |
| 2 | 115 | .49 | 1.30 pm. 12.28.96 | 8.45 | 1 | | $104\frac{1}{4}$ | .43 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $115\frac{1}{4}$ | $.49\frac{1}{2}$ | | | | | 104.62 | .4338 |

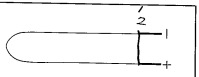
| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At $28\frac{3}{4}$ Candles. | 377 |

| 65 600 L. | 11 a.m. 12.29.96 | | | | 10 a.m. 12.31.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40' 20" | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .82 | | | 23 5/7 | .81 | | | 21 3/7 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23 5/7 | | | | 21 3/7 | | | | | | | | | | | | | | | | |
| % | | | | 80.3 | | | | 74.4 | | | | | | | | | | | | | | | | |

ORDER No. 201 Ed. 64

At 31 Candles. Test Started 2.15 p.m. 12.24.86 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 118 | .52 | 4.40 p.m. 12.24.86 | 2.25 | 2 | | 105½ | .44 |
| 2 | 119½ | .53 | 2.45 p.m. 12.24.86 | .30 | 1 | | 107¾ | .45¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 118¾ | .525 | | 1.28 | | | 106.62 | .4488 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 250 |
| At 31 Candles. | 372 |

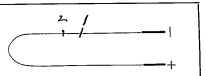
Cand

Cand

ORDER No. 202 Ed. 65

At 29¼ Candles. Test Started 2.15 p.m. 12.24.86 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110½ | .53 | 2.20 PM 1-25-87 | 2252.55 | 2 | | 100 | .46 |
| 2 | 114 | .52 | 7.15 am. 12.29.86 | 16.15 | 1 | | 103 | .44¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112¼ | .515 | | | | | 101½ | .4537 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 377 |

66 | 10 a.m. 12.29.96
EQUIL. 20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .50½ | | | 20 | — | | | — | | | | | | | | | | | | | | | | |
| 2 | .50 | | | 21 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 67.2 | | | | | | | | | | | | | | | | | | | | |

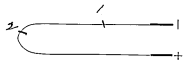
67 | 11 a.m. 12.29.96 | 10 a.m. 12.31.96
EQUIL. 20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .50 | | | 21¾ | .49 | | | 20 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21¾ | | | | 20 | | | | | | | | | | | | | | | | |
| % | | | | 75.1 | | | | 69.6 | | | | | | | | | | | | | | | | |

ORDER No. 203 Ed: # 66

At 30½ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114¾ | .52 | 10.30 pm. 1-5-97 | 81.20 | 1 | . | 103 | .45½ |
| 2 | 117 | .53 | 3.10 pm. 1.6.97 | 88.30 | 2 | | 104½ | .45½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 115.88 | .525 | | 84.55 | | | 103¾ | .45½ |

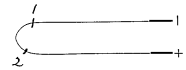



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At 30½ Candles. | 375 |

ORDER No. 204 Ed: # 67

At 28¾ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 | .51 | 10.00 AM 12-1-97 | 217.50 | 2 | | 102 | .45¼ |
| 2 | 117¾ | .48 | 3.35 pm 12.24.96 | 7.20 | 1 | | 106 | .42 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114.38 | .495 | | | | | 104 | .4368 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28¾ Candles. | 379 |

69 Wgt. L. 20 | 11 a.m. 12.29.96 | 10 a.m. 12.31.96 | 40'.20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | | | 24 | .47½ | | | 19½ | | | | | | | | | | | | | | | | |
| 2 | .52 | | | 23 | .50½ | | | 21 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23½ | | | | 20½ | | | | | | | | | | | | | | | | |
| % | | | | 50.3 | | | | 69.2 | | | | | | | | | | | | | | | | |

71 Wgt. L. 20 | 11 a.m. 12.29.96 | 10 a.m. 12.31.96 | 40'.20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 50½ | | | 22 | .49 | | | 19½ | — | | | — | | | | | | | | | | | | |
| 2 | 51 | | | 22½ | .50 | | | 21½ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.37 | | | | 20½ | | | | | | | | | | | | | | | | |
| % | | | | 75.8 | | | | 69.5 | | | | | | | | | | | | | | | | |

ORDER NO. 205 Ed: #69

At 29 1/4 Candles. Test Started 2.15 Pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 3/4 | .49 3/4 | 9.50 am. 1.12.97 | 131.10 | 1 | | 104 | .43 1/2 |
| 2 | 111 1/2 | .53 | 2.15 PM 1-26-97 | 963.35 | 2 | | 101 | .46 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113.12 | .5138 | | | | | 102 1/2 | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29 1/4 Candles. | 374 |

ORDER NO. 206 Ed: #71

At 29 1/2 Candles. Test Started 2.15 Pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 1/2 | .52 | 8.45 am. 1-16-97 | 181.20 | 1 | | 102 | .45 1/2 |
| 2 | 110 1/4 | .52 3/4 | 12.30 PM 2-5-97 | 371.05 | 2 | | 100 1/4 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.38 | .5237 | | | | | 101.12 | .45 3/4 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29 1/2 Candles. | 378 |

72 (1000 L.) | 11 a.m. 12.29.31 | 10 a.m. 12.31.96
20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | | | 22½ | .48 | | | 19¾ | | | | | | | | | | | | | | | | |
| 2 | .49 | | | 22 | .47½ | | | 19 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22¼ | | | | 19.38 | | | | | | | | | | | | | | | | |
| % | | | | 79.5 | | | | 69.2 | | | | | | | | | | | | | | | | |

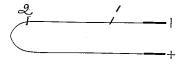
73 (1000 L.) | 11 a.m. 12.29.96 | 10 a.m. 12.31.96
20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .50 | | | 23½ | .48 | | | 18¾ | | | | | | | | | | | | | | | | |
| 2 | .48 | | | 23 | .46½ | | | 21 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23.12 | | | | 19.62 | | | | | | | | | | | | | | | | |
| % | | | | | | | | 66.5 | | | | | | | | | | | | | | | | |

ORDER No. 207 Ed: #72

At 28 Candles. Test Started 2.15 pm. 12.24.86 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111½ | .50 | 9.35 am 2-1-97 | 3161.10 | 2 | | 101¾ | .44 |
| 2 | 111¾ | .50 | 5.15 PM 1-31-97 | 2250.05 | 1 | | 102 | .44¼ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.62 | .50 | | | | | 101.87 | .4412 |

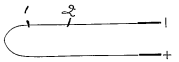



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 375 |

ORDER No. 208 Ed: 73

At 29½ Candles. Test Started 2.15 pm. 12.24.86 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113 | .51 | 3.40 pm. 1.13.97 | 148.- | 1 | | 103 | .45 |
| 2 | 114 | .49½ | 2.15 PM 1-28-97 | 289.50 | 2 | | 104½ | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113½ | .50¼ | | | | | 103¾ | .45½ |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 386 |

74 (100 L.) 11 am. 12.29.96 | 10 am 12.31.96
20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .48 | | | 22¼ .474 | | | | 20¾ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avs. | | | | 22¼ | | | | 20¾ | | | | | | | | | | | | | | | | |
| % | | | | 77.6 | | | | 71.6 | | | | | | | | | | | | | | | | |

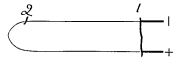
75 (100 L.) 11 am. 12.29.96
20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .50 | | | 18¾ | | | | | | | | | | | | | | | | | | | | |
| 2 | .42 | | | 20½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avs. | | | | 19½ | | | | | | | | | | | | | | | | | | | | |
| % | | | | 66.5 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 209 Ed. #74

At 29 Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114¼ | .50¾ | 5.25 p.m. 12.24.96 | 3.10 | 1 | | 104 | .44½ |
| 2 | 113¾ | .50 | 10.55 AM 1-25-97 | 249.30 | 2 | | 103 | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114 | .5038 | | | | | 103½ | .44¼ |



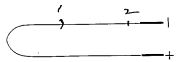

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

Ord'd

ORDER No. 210 Ed. 75

At 29½ Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114¾ | .53½ | 11.40 a.m. 1.6.97 | 86. – | 2 | | 102 | .45¼ |
| 2 | 116½ | .51 | 5.30 p.m. 1.5.97 | 77.20 | 1 | | 105 | .44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 115.62 | .52¼ | | 81.40 | | | 103½ | .4488 |



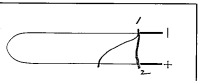

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 366 |

| 77 Rect. | 11 am 12.29.96 20 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 21 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 67.2 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 211 Ed. #76

At 29 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115 | .50 1/2 | 3.55 pm. 12.24.96 | 1.40 | 1 | | 104 1/3 | .44 1/4 |
| 2 | 112 1/4 | .51 | 2.15 pm. 12.28.96 | 9.30 | 2 | | 101 3/4 | .44 3/4 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 113.68 | .50 3/4 | | 5.35 | | | 103.12 | .44 1/2 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 374 |

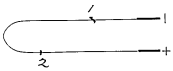
Are'd

d

ORDER No. 212 Ed. 77

At 32 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115 1/4 | .55 1/2 | 11.20 am 12.30.96 | 28.10 | 2 | | 102 | .47 |
| 2 | 119 | .55 1/4 | 5.30 pm 12.28.96 | 12.45 | 1 | | 105 1/2 | .47 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 117.12 | .5538 | | 20.27 | | | 103 3/4 | .47 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 32 Candles. | 368 |

79 Rock 1. 11 a.m. 12.29.96

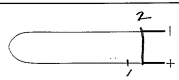
20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | | | 21¾ | | | | | | | | | | | | | | | | | | | | |
| 2 | .50 | | | 18 | — | | | — | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.87 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 62.1 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 213 Ed: #78

At $32\frac{2}{3}$ Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 122 | .54 | 10.15 a.m. 12.28.96 | 6.30 | 2 | | $108\frac{3}{4}$ | $.45\frac{1}{2}$ |
| 2 | $118\frac{1}{2}$ | $.55\frac{1}{4}$ | 8.25 p.m. 12.24.96 | 3.10 | 1 | | 105 | $.46\frac{3}{4}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $120\frac{1}{4}$ | .546 | | 4.50 | | | 106.87 | .4612 |



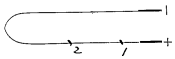

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 242 |
| At $32\frac{2}{3}$ Candles. | 372 |

Ord'd

ORDER No. 214 Ed: #79

At 32 Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $116\frac{1}{2}$ | $.56\frac{3}{4}$ | 8.55 a.m. 1.5.97 | 69.15 | 2 | | $103\frac{1}{4}$ | $.47\frac{3}{4}$ |
| 2 | 119 | $.53\frac{1}{2}$ | 3.20 p.m. 1.4.97 | 65.25 | 1 | | 106 | $.45\frac{1}{2}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $117\frac{3}{4}$ | .5512 | | 67.20 | | | 104.62 | .4662 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 32 Candles. | 368 |

80
1000 L.

11 a.m. 12.29.96 10 a.m. 12.31.96

20 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .52 | | | 24 | .504 | | | 21 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 24 | | | | 21 | | | | | | | | | | | | | | | | |
| % | | | | 79.3 | | | | 69.4 | | | | | | | | | | | | | | | | |

ORDER No. 215 Ed. # 80

At 30¼ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115½ | .52¾ | 4.20 pm. 12.28.96 | 11.35 | 1 | | 103 | .45 |
| 2 | 113 | .53½ | 7.45 pm. 1.11.97 | 127.20 | 2 | | 102 | .46½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114¼ | .5312 | | 69.27 | | | 102½ | .45¾ |

V

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 254 |
| At 30¼ Candles. | 372 |

ORDER No. 216 Ed. 81

At 29¾ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 118¼ | .50½ | 9.25 pm. 12.28.96 | 14.10 | 1 | | 106½ | .44 |
| 2 | 114 | .52 | Taken down 12.29.96 11 am | 20.– | 2 | | 103 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 116.12 | .51¼ | | 17.05 | | | 104¾ | .44½ |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At 29¾ Candles. | 372 |

Aged

Dropped to 6¼ C.P.

Candles per H. P.

264

379

82 | 11 a.m. 12.29.96 | 10 a.m. 12.31.96

6000 L. | 20 | 40 : 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49½ | | | 22 | .48¾ | | | 20¾ | | | | | | | | | | | | | | | | |
| 2 | .46½ | | | 22½ | .45¾ | | | 20 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22¾ | | | | 20.38 | | | | | | | | | | | | | | | | |
| % | | | | 78.1 | | | | 71.5 | | | | | | | | | | | | | | | | |

Candles per H. P.

259

371

83 | 11 a.m. 12.29.96

6000 L. | 20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | | | 23 | | | | | | | | | | | | | | | | | | | | |
| 2 | .49 | | | 19¾ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21.12 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 72.2 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 217 Ed. #82

At 28½ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110¼ | .51¾ | 4.45 pm 1.7.97 | 103.50 | 2 | | 101 | .45¾ |
| 2 | 110¼ | .49¾ | 4.15 pm 1.4.97 | 66.20 | 1 | | 101 | .44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110¼ | .50¾ | | 85.05 | | | 101 | .4488 |

½

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 379 |

ORDER No. 218 Ed: 83

At 29¼ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 | .51 | 4.20 PM 1-20-97 | 210.10 | 2 | | 100½ | .45 |
| 2 | 114¾ | .53 | 8.15 am. 1.2.97 | 54.05 | 1 | | 103 | .45¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112.87 | .52 | | | | | 101¾ | .45¼ |

1 ✓

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 371 |

| 85 | 11am. 12.29.96 | | | | 10am. 12.31.96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8000 L. | 20 | | | | 40.20" | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 23 | .48 | | | 19½ | | | | | | | | | | | | | | | | |
| 2 | .50½ | | | 23 | .49½ | | | 18½ | — | | — | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | 18.87 | | | | | | | | | | | | | | | | |
| Avg. | | | | 23 | | | | 67.4 | | | | | | | | | | | | | | | | |
| % | | | | 82.1 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 219 Ed: 84

At 29 Candles. Test Started 2.15 pm. 12.24.86 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 3/4 | .50 1/2 | 4.40 pm 12.24.86 | 2.25 | 1 | | 104 | .44 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114 3/4 | .50 1/2 | | 2.25 | | | 104 | .44 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 374 |

ORDER No. 220 Ed: 85

At 28 Candles. Test Started 2.15 pm. 12.24.86 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .51 1/2 | 7.40 AM. 1.26.97 | 259.00 | 2 | | 98 | .45 1/2 |
| 2 | 109 3/4 | .51 3/4 | 9.05 pm. 1.12.97 | 140.25 | 1 | | 100 | .45 1/4 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.88 | .5162 | | | | | 99 | .4538 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 372 |

86 | 11am. 12.29.96 | 10am. 12.3.96
20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .48 3/4 | | | 23 | .47 | | | 19 3/4 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 23 | | | | 19 3/4 | | | | | | | | | | | | | | | | |
| % | | | | 80 | | | | 68.7 | | | | | | | | | | | | | | | | |

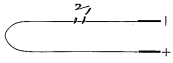
88 | 11am. 12.29.96
20

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .49 | | | 22 1/4 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 22 1/4 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 78.1 | | | | | | | | | | | | | | | | | | | | |

ORDER No. 221 Ed: #86

At 28¾ Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113 | .50 | 10.30 a.m. 1-30-97 | 312.25 | 2 | | 103 | .43¾ |
| 2 | 111 | .52 | 10.30 p.m. 12.28.96 | 15.15 | 1 | | 101 | .45¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112 | .51 | | | | | 102 | 44¾ |



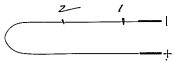

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28¾ Candles. | 377 |

N.B. Order 222 - Ed #87 - Carbon broken by chemicals dripping thereon after placing on photometer

ORDER No. 223 Ed: #88

At 28½ Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 | .50 | 4.40 p.m. 12.24.96 | 2.25 | 1 | | 103¼ | .43¾ |
| 2 | 111 | .52 | 5.20 p.m. 12.30.96 | 33.10 | 2 | | 100½ | .45¼ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112½ | .51 | | 17.47 | | | 101.87 | .44½ |

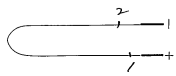



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 370 |

ORDER No. 224 Ed. # 89

At $30\frac{3}{4}$ Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 117 | .53 | 6.20 a.m. 12.28.96 | 4.35 | 2 | | 105 | $.45\frac{1}{4}$ |
| 2 | 113 | $.53\frac{1}{4}$ | 4.40 p.m. 12.24.96 | 2.25 | 1 | | 102 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 115 | .5312 | | 3.50 | | | $103\frac{1}{2}$ | .4588 |

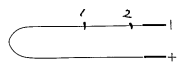



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 251 |
| At $30\frac{3}{4}$ Candles. | 375 |

ORDER No. 225 Ed. # 90

At 32 Candles. Test Started 2.15 p.m. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 | $.54\frac{3}{4}$ | 3.55 p.m. 12.24.96 | 1.40 | 2 | | $102\frac{1}{2}$ | $.46\frac{3}{4}$ |
| 2 | $115\frac{1}{4}$ | .54 | 3.20 p.m. 12.24.96 | 1.05 | 1 | | 105 | .47 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114.62 | .5438 | | 1.22 | | | $103\frac{3}{4}$ | .4688 |

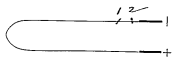



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 32 Candles. | 384 |

ORDER No. 226 Ed. #91

At $30\frac{1}{2}$ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $115\frac{3}{4}$ | .53 | 1.30 pm. 12.28.96 | 8.45 | 2 | | 103 | $.45\frac{1}{2}$ |
| 2 | $115\frac{3}{4}$ | .54 | 8.10 am. 12.28.96 | 4.25 | 1 | | 103 | $.46\frac{1}{4}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $115\frac{3}{4}$ | .535 | | 6.35 | | | 103 | .4588 |

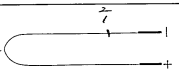



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At $30\frac{1}{2}$ Candles. | 369 |

ORDER No. 227 Ed. #92

At $29\frac{1}{2}$ Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $113\frac{1}{2}$ | $.52\frac{3}{4}$ | 4.50 pm. 12.24.96 | 2.35 | 1 | | 101 | $.44\frac{3}{4}$ |
| 2 | 116 | $.57\frac{3}{4}$ | 10.45 Am. 12.29.96 | 19.45 | 2 | | 105 | $.45\frac{1}{4}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $114\frac{3}{4}$ | $.52\frac{1}{4}$ | | 11.10 | | | 103 | .45 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At $29\frac{1}{2}$ Candles. | 366 |

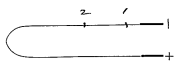
93 | 11 am. 12.29.96 | 10 am. 12.31.96
20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | | | 23 | .48 | | | 20 | | | | | | | | | | | | | | | | |
| 2 | .49 | | | 22½ | .48 | | | 19 | — | | | — | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 22¾ | | | | 19½ | | | | | | | | | | | | | | | | |
| % | | | | 91.3 | | | | 69.6 | | | | | | | | | | | | | | | | |

ORDER No. 229 Ed. #94

At 31 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | CHECK NO. OF BROKEN NO. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116¼ | .53½ | 9 am. 12.28.96 | 5.15 | 2 | | 105 | .46¾ |
| 2 | 112 | .55¾ | 8.10 am. 12.28.96 | 4.25 | 1 | | 98½ | .47 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114.12 | .546 | | 4.50 | | | 101¾ | .4688 |

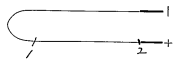



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 250 |
| At 31 Candles. | 369 |

ORDER No. 228 Ed. # 93

At 28 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 1/3 | .50 | 4:00 PM 2-3-97 | 343.35 | 2 | | 101 1/3 | .44 1/2 |
| 2 | 108 3/4 | .50 1/4 | 8:55 pm. 1.13.97 | 152.15 | 1 | | 99 1/2 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.12 | .501 | | | | | 100.38 | .44 3/4 |

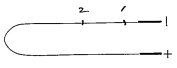



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 266 |
| At 28 Candles. | 378 |

ORDER No. 229 Ed. # 94

At 31 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116 1/4 | .53 1/2 | 9 am. 12.28.96 | 5.15 | 2 | | 105 | .46 3/4 |
| 2 | 112 | .55 3/4 | 8.10 am. 12.28.96 | 4.25 | 1 | | 98 1/2 | .47 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 114.12 | .546 | | 4.50 | | | 101 3/4 | .4688 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 250 |
| At 31 Candles. | 369 |

| 95 | 11 a.m. 12-29-96 | | | | 10 a.m. 12-31-96 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | 40' 20" | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 23½ | .47¾ | | | 21 | | | | | | | | | | | | | | | | |
| 2 | .47½ | | | 23 | .48¼ | | | 17¾ | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23¼ | | | | 19.38 | | | | | | | | | | | | | | | | |
| % | | | | 83 | | | | 69.2 | | | | | | | | | | | | | | | | |

ORDER No. 230 Ed: 95

At 28 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 3/4 | .50 1/2 | 6 pm. 1.12.97 | 138.20 | 1 | | 100 1/2 | .45 |
| 2 | 108 1/2 | .50 1/2 | 8.05 1-22-97 | 228.55 | 2 | | 98 3/4 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.12 | .50 1/2 | | | | | 99.62 | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 267 |
| At 28 Candles. | 378 |

ORDER No. 231 Ed: 96

At 29 1/4 Candles. Test Started 2.15 pm. 12.24.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | Broke on photometer | | | | | | 106 1/4 | 44 1/2 |
| 2 | 110 | 53 | 5 pm. 12.24.96 | 2.45 | | | 100 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110 | .53 | | 2.45 | | | 100 | .46 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29 1/4 Candles. | 374 |

Are

Bursted

97 | 11 a.m. 12.29.96 | 10 a.m. 12.31.96 | ~~[illegible]~~

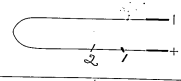
20 | 40' 20"

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .51 | | | 23 | .49½ | | | 19 | — | | | — | | | | | | | | | | | | |
| 2 | .49½ | | | 20¾ | .49 | | | 19 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21.87 | | | | 19 | | | | | | | | | | | | | | | | |
| % | | | | 76.8 | | | | 66.7 | | | | | | | | | | | | | | | | |

ORDER No. 232 Ed: #97

At 28½ Candles. Test Started 2.15pm. 12.24.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109¾ | .52 | 10.10am. 1.15.97 | 169.45 | 1 | | 100 | .45½ |
| 2 | 110 | .57 | ~~1.40 PM 1.23.97~~ | 233.30 | 2 | | 100 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.88 | .515 | | | | | 100 | .45¼ |

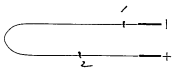



| | Candles per H. P. |
|---|---|
| At 16 Candles. | .264 |
| At 28½ Candles. | .376 |

ORDER No. 233 Ed: #98

At 28½ Candles. Test Started 2.15pm. 12.24.96

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | At 16 Candles. VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112¾ | .52½ | 8.45am. 12.28.96 | 5.00 | 1 | | 102½ | .45¾ |
| 2 | 109¾ | .50 | 11.05pm. 12.28.96 | 15.50 | 2 | | 99½ | .43½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111¼ | .51¼ | | 10.25 | | | 101 | .4462 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | .264 |
| At 28½ Candles. | .373 |

205 N 1.2.97 (8.30a.m.) 4.10 p.m. 1.5.97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | | | 40 | | | | | | | | | | | | | | | | | |
| 1 | .33 4/7 | | | 8 2/7 | .32 | | | 7 4/7 | | | | | | | | | | | | | | | | |
| 2 | .32 | | | 7 1/2 | .31 2/7 | | | 7 | | | | | | | | | | | | | | | | |
| 3 | .33 1/2 | | | 9 | .33 | | | 8 4/7 | | | | | | | | | | | | | | | | |
| 4 | .31 | | | 7 | — | | | — | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 8.06 | | | | 7 1/2 | | | | | | | | | | | | | | | | |
| % | | | | 60.8 | | | | 56.6 | | | | | | | | | | | | | | | | |

205 N 8.30a.m. 1.2.97 | 4.10 p.m. 1.5.97 | 8.10 a.m. 1.9.97 | 4.40 p.m. 1.12.97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | | | | | | 40 | | | | 80 | | | | 100 | | | | | | | | | |
| 1 | .38 2/7 | | | 8 4/7 | .38 1/2 | | | 8 4/7 | .37 1/7 | | | 8 | .37 1/7 | | | 7 1/2 | | | | | | | | |
| 2 | .36 | | | 7 1/2 | .36 | | | 7 4/7 | — | | | — | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 7.87 | | | | 7.75 | | | | 8 | | | | 7 1/2 | | | | | | | | |
| % | | | | 98.4 | | | | 96.9 | | | | 100 | | | | 93.8 | | | | | | | | |

ORDER No. 234 Ed: 205M

At 13¼ Candles. Test Started 6.15 pm. 12.30.96

At 16 Candles.

Flashed

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 72 | .38 | 12.05 pm. 1.15.97 | 134.40 | 3 | | 74 | .39 |
| 2 | 69 | .37½ | 2.40 pm. 1.14.97 | 124.— | 2 | | 71½ | .39 |
| 3 | 71 | .38 | 9.15 pm. 1.15.97 | 137.50 | 4 | | 73 | .39¼ |
| 4 | 69½ | .38¼ | 7.30 am. 1.4.97 | 22.15 | 1 | | 72 | .40 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 70.37 | .3794 | | 104.41 | | | 72.62 | .393 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 419 |
| At 13¼ Candles. | 370 |

ORDER No. 235 Ed. 205N

At Candles. Test Started 6.15 pm. 12.30.96

At 8 Candles.

Flashed

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 4 pm. 1.15.97 | 137.20 | 2 | | 58¾ | .39 |
| 2 | | | 3.20 pm. 1.6.97 | 51.40 | 1 | | 60¾ | .37¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 94.50 | | | 59¾ | .3838 |

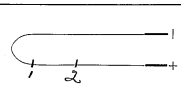
| | Candles per H. P. |
|---|---|
| At 8 Candles. | 257 |
| At Candles. | |

| 99 | 6.15 pm. 1.8.97 | | | | 11.15 a.m. 1.11.97 | | | | 9.45 a.m. 1.13.97 | | | | 5.30 pm. 1.14.97 | | | | 11.15 AM. 1.16.97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .50 | | | 21 | .49½ | | | 20 | .48½ | | | 18 | .48 | | | 16½ | .47½ | | | 16 | | | | |
| 2 | .50½ | | | 20 | .50 | | | 18¾ | .49 | | | 17 | .48½ | | | 15½ | .47½ | | | 14½ | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20½ | | | | 19.37 | | | | 17½ | | | | 16 | | | | 15½ | | | | |
| % | | | | 71.3 | | | | 67.4 | | | | 60.9 | | | | 55.7 | | | | 53 | | | | |

ORDER No. 236 Sd #99

At $28\frac{3}{4}$ Candles. Test Started 9.30 am. 1.6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .52 | 8.00 am 1-26-97 | 173.30 | 1 | | $97\frac{3}{4}$ | $.45\frac{3}{4}$ |
| 2 | 111 | .52 | 10.45 AM. 1-23.97 | 203.30 | 2 | | 101 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $109\frac{1}{2}$ | .52 | | | | | 99.38 | .4587 |

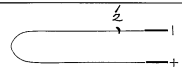



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At $28\frac{3}{4}$ Candles. | 377 |

ORDER No. 237 Sd. 100

At $31\frac{2}{3}$ Candles. Test Started 9.30 am. 1.8.96 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $112\frac{1}{4}$ | .54 | 1.30 pm. 1.7.97 | 25.15 | 2 | | $101\frac{1}{4}$ | .47 |
| 2 | 118 | $.54\frac{1}{4}$ | 2.20 pm. 1.6.97 | 3.50 | 1 | | $105\frac{1}{2}$ | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 115.12 | .5413 | | 14.32 | | | 103.38 | .465 |



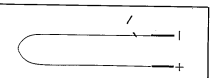

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 248 |
| At $31\frac{2}{3}$ Candles. | 380 |

| 101 | 6.15 p.m. 1.8.97 | | | | 11.15 a.m. 14.8.97 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 20½ .48 | | | | 19½ | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20½ | | | | 19½ | | | | | | | | | | | | | | | | |
| % | | | | 71.9 | | | | 68.4 | | | | | | | | | | | | | | | | |

ORDER No. 238 Ed: 101

At 28½ Candles. Test Started 9.30am. 1.6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .50½ | 7.45am. 1.12.97 | 45.15 | 1 | | 101½ | .44½ |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112 | .50½ | | 45.15 | | | 101½ | .44½ |

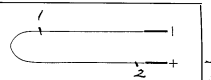



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 376 |

ORDER No. 239 Ed. 102

At 29 Candles. Test Started 9.30am. 1.6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .52 | 2.05pm. 1.8.97 | 25.50 | 2 | | 103 | .46 |
| 2 | 113½ | .49½ | 10.55pm. 1.7.97 | 25.10 | 1 | | 103½ | .43 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112¾ | .50¾ | | 25.30 | | | 103¼ | .44½ |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 377 |

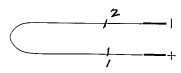
| 104 | 6.15 p.m. 1.8.97 | | | | 11.15 a.m. 1.11.97 | | | | 9.45 a.m. 1.13.97 | | | | 5.30 p.m. 1.14.97 | | | | 11.15 A.M. 1-16-97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 22½ | .50½ | | | 21½ | .49 | | | 18¾ | .49 | | | 18 | .48 | | | 16.5 | | | | |
| 2 | .48 | | | 22 | .47 | | | 21 | .46½ | | | 19¾ | .46 | | | 18 | .45 | | | 17½ | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22¼ | | | | 21¼ | | | | 19¼ | | | | 18 | | | | 16.5 | | | | |
| % | | | | 74.1 | | | | 72.7 | | | | 65.8 | | | | 61.5 | | | | 57.7 | | | | |

| 105 | 6.15 p.m. 1.8.97 | | | | 11.15 a.m. 1.11.97 | | | | 9.45 a.m. 1.13.97 | | | | 5.30 p.m. 1.14.97 | | | | 11-15-A.M. 1-16-97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 20 | .50 | | | 18¾ | .49 | | | 15¼ | .48 | | | 14¾ | | | | | | | | |
| 2 | .50 | | | 22 | .49½ | | | 20½ | .48½ | | | 17¼ | .48½ | | | 16½ | .47½ | | | 16 | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21 | | | | 19.62 | | | | 16½ | | | | 15.62 | | | | 16 | | | | |
| % | | | | 71.2 | | | | 66.5 | | | | 55.9 | | | | 53 | | | | 54.2 | | | | |

ORDER NO. 240 Ed: 104

At 29¼ Candles. Test Started 9.30 am. 1.6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107¼ | .53 | 5:30 PM 1-18-97 | 11430 | 2 | | 98 | .47 |
| 2 | 111 | .51 | 4:30 PM 1-18-97 | 10230 | 1 | | 102 | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.12 | .52 | | | | | 100 | .46 |

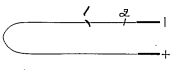



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 259 |
| At 29¼ Candles. | 383 |

ORDER NO. 241 Ed: 105

At 29½ Candles. Test Started 9.30 am. 1.6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110½ | .53¼ | 4.05 pm. 1.15.97 | 90.55 | 1 | | 100¼ | .46½ |
| 2 | 110 | .52½ | 12:15 PM 1.23.97 | 161.15 | 2 | | 100 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110¼ | .5287 | | | | | 100.12 | .46¼ |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 378 |

| 106 | 6.15 p.m. 1.8.97 | | | | 11.15 a.m. 1.11.97 | | | | 9.45 a.m. 1.13.97 | | | | ~~7.25 p.m. 1.13.97~~ 5.30 p.m. 1.17.97 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48 | | | 21½ | .48 | | | 21½ | .47 | | | 19¾ | .46½ | | | 17¼ | | | | | | | | |
| 2 | .48½ | | | 20½ | .48¼ | | | 21 | .47 | | | 18 | — | | | — | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21 | | | | 21¼ | | | | 18.87 | | | | 17¾ | | | | | | | | |
| % | | | | 72.4 | | | | 73.3 | | | | 65.1 | | | | 61.2 | | | | | | | | |

ORDER NO. 242 Ed: 106

At 29 Candles. Test Started 1. 6. 96 9.30 am. At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 | .57 | 7.45 pm. 1.15.97 | 93.30 | 2 | | 101 | .45 |
| 2 | 111 | .51 3/4 | 7.35 pm. 1.13.97 | 67.05 | 1 | | 101 | .45 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111 | .5737 | | 80.17 | | | 101 | .45 1/4 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 380 |

ORDER NO. 243 Ed: 107

At 32 2/3 Candles. Test Started 9.30 am 1.6.96 At 16 Candles.

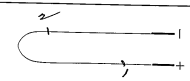
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 115 1/4 | .52 | 11.45 am. 1-6-97 | 2.15 | 1 | | 102 3/4 | .48 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 115 1/4 | .52 | | 2.15 | | | 102 3/4 | .48 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 242 |
| At 32 2/3 Candles. | 408 |

ORDER No. 244 Ed: 108

At 30¼ Candles. Test Started 9.30 a.m. 1-7-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 116½ | .57 | 2.40 p.m. 1-6-97 | 4.10 | 1 | | 105½ | .44 |
| 2 | 117¼ | .50½ | 4.10 p.m. 1-7-97 | 19.25 | 2 | | 107 | .44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 11.47 | | | 106¾ | .44¼ |

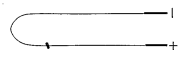



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 254 |
| At 30¼ Candles. | 381 |

ORDER No. 245 Ed: 109

At 32 Candles. Test Started 9.30 a.m. 1-8-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 123¼ | .50½ | 9.50 a.m. 1-6-96 | .20 | 1 | | 111¼ | .43¾ |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | | |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 245 |
| At 32 Candles. | 384 |

| 111 | 6.15 p.m. 1.8.97 | | | | 11.15 a.m. 1.11.97 | | | | 9.45 a.m. 1.13.97 | | | | 5.30 p.m. 1.14.97 | | | | 11.15 A.M. 1.16.97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 21½ | .48¾ | | | 20½ | .47¾ | | | 17½ | .47 | | | 16 | 46½ | | | 15½ | | | | |
| 2 | .49½ | | | 20½ | .49 | | | 20 | .48½ | | | 18½ | .48 | | | 17 | 47 | | | 15½ | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20.87 | | | | 20¼ | | | | 17.87 | | | | 16½ | | | | 15.37 | | | | |
| % | | | | 72 | | | | 69.8 | | | | 61.6 | | | | 56.9 | | | | 53 | | | | |

ORDER NO. 246 Ld: 110

Paplinded

At $33\frac{3}{4}$ Candles. Test Started 9.30 am. 1-6-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | $121\frac{3}{4}$ | $.54\frac{1}{4}$ | 4.50 pm 1-6-97 | 6.25 | 1 | | $108\frac{1}{4}$ | $.46\frac{1}{2}$ |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | $121\frac{3}{4}$ | $.54\frac{1}{4}$ | | 6.25 | | | $108\frac{1}{4}$ | $46\frac{1}{2}$ |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | .237 |
| At $33\frac{3}{4}$ Candles. | 381 |

ORDER NO. 247 Ld: 111

2 1

At 29 Candles. Test Started 9.30 am. 1-6-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 | .52 | 11.30 AM 1-22-97 | 1428.30 | 1 | | $98\frac{1}{4}$ | .46 |
| 2 | 111 | .52 | 5.40 Pm 1-28-97 | 2019.33 | 2 | | 101 | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 99.62 | .46 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 261 |
| At 29 Candles. | 380 |

ORDER No. 248 Sd: 112

At 35 Candles. Test Started 9.30 am. 1.6.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 118½ | .55 | 10.10am. 1-6-97 | .40 | 1 | | 107½ | .48 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 118½ | .55 | | .40 | | | 107½ | .48 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 232 |
| At 35 Candles. | 399 |

ORDER No. 249 Sd. 113

At 29¾ Candles. Test Started 9.30am. 1.6.97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life. (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .57 | 10.30am. 1-6-97 | 2. | 2 | | 102 | .45 |
| 2 | 115¼ | .52 | 10am - 1-6-97 | .30 | 1 | | 104 | .45¼ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 1.15 | | | 103 | .4512 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At 29¾ Candles. | 381 |

Arch

Burnt

| 114 | 6.15 pm. 1.8.97 | | | | 11.15 am. 1.11.97 | | | | 9.45 am. 1.13.97 | | | | 5.30 pm. 1.14.97 | | | | 11.15 pm. 1-16-97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .49 | | | 21 | .48½ | | | 20 | .48 | | | 17½ | .47 | | | 17 | 46½ | | | 16 | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21 | | | | 20 | | | | 17½ | | | | 17 | | | | 16 | | | | |
| % | | | | 70.6 | | | | 67.2 | | | | 58.8 | | | | 57.1 | | | | 53.5 | | | | |

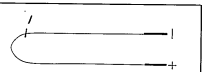
| 115 | 6.15 pm. 1.8.97 | | | | 11.15 am. 1.11.97 | | | | 9.45 am. 1.13.97 | | | | 5.30 pm. 1.14.97 | | | | 11.15 pm. 1-16-97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | .57 3/7 | | | 19½ | .50½ | | | 19 | .49 | | | 16½ | .48½ | | | 16 | 45 | | | 15 4/7 | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19½ | | | | 19 | | | | 16½ | | | | 16 | | | | 15 4/7 | | | | |
| % | | | | 63.9 | | | | 62.3 | | | | 54.1 | | | | 52.5 | | | | 50 | | | | |

Taken Down 1-19-97

ORDER No. 250 Id: 114

At $29\frac{3}{4}$ Candles. Test Started 9.30 am. 1-6-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112 | .57 | 11.20 am 1-2-97 | 190.05 | 1 | | $102\frac{1}{4}$ | $.45\frac{1}{2}$ |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 112 | .57 | | | | | $102\frac{1}{4}$ | $.45\frac{1}{2}$ |

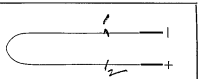


| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At $29\frac{3}{4}$ Candles. | 390 |

ORDER No. 251 Id: 115

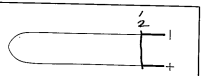
At $30\frac{1}{2}$ Candles. Test Started 9.30 am. 1-6-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 114 | $.52\frac{1}{4}$ | 2 pm. 1-6-97 | 3.30 | 1 | | $102\frac{1}{4}$ | .45 |
| 2 | $115\frac{1}{2}$ | $.54\frac{1}{2}$ | 8.10 AM 1-19-97 | 106.10 | 2 | | $103\frac{1}{4}$ | $.46\frac{3}{4}$ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | $102\frac{3}{4}$ | .4587 |



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 253 |
| At $30\frac{1}{2}$ Candles. | 372 |

ORDER No. 252 Sd: 116



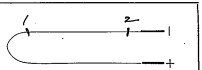

At 32½ Candles. Test Started 9.30 am. 1.6.96 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 117 | .54 | 10.03 am. 1.6.97 | .33 | 2 | | 105 | .46 |
| 2 | 120¼ | .53 | 10.02 am. 1.6.97 | .32 | 1 | | 108½ | .45¾ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 31½ | | | 106¾ | .458 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 243 |
| At 32½ Candles. | 361 |

} both are

ORDER No. 253 Sd: 117




At 29½ Candles. Test Started 9.30 am. 1-6-97 At 16 Candles.

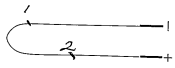
| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111½ | .57¼ | 1.25 pm 1-7-97 | 25.10 | 2 | | 101 | .45 |
| 2 | 112 | .53 | 11.35 am. 1-6-97 | 2.05 | 1 | | 101½ | .46½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 13.38 | | | 101¼ | .45¾ |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 258 |
| At 29½ Candles. | 384 |

| 119 | 6.15 pm. 1.8.97 | | | | 11.15 am. 1.11.97 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .48 | | | 21 | .47½ | | | 20¼ | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21 | | | | 20¼ | | | | | | | | | | | | | | | | |
| % | | | | 76.4 | | | | 73.6 | | | | | | | | | | | | | | | | |

| 120 | 6.15 pm. 1.8.97 | | | | 11.15 am. 1.11.97 | | | | 9.45 am. 1.13.97 | | | | 5.30 pm 1.14.97 | | | | 11.15 AM 1.16.97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .47½ | | | 22 | .46¾ | | | 21¼ | — | | | | — | | | | | | | | | | | |
| 2 | .48 | | | 20½ | .47 | | | 19 | .46½ | | | 18 | .46½ | | | 16¾ | .45½ | | | 15½ | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21¼ | | | | 20.12 | | | | 18 | | | | 16¾ | | | | 15½ | | | | |
| % | | | | 77.3 | | | | 73.2 | | | | 65.5 | | | | 60.9 | | | | 56.4 | | | | |

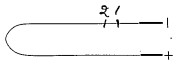
ORDER NO. 254 Ed: 119




| | At 27½ Candles. | | Test Started 9.30 am. 1-6-97 | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
| 1 | 108 | .49½ | 8.30 am. 1.12.97 | 46.— | 2 | | 99½ | .44½ |
| 2 | 105¼ | .57 | 3.45 pm. 1.6.97 | 5.15 | 1 | | 97¼ | .46 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 25.38 | | | 99.38 | .45¼ |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 269 |
| At 27½ Candles. | 382 |

ORDER NO. 255 Ed: 120




| | At 27½ Candles. | | Test Started 9.30 am. 1-6-97 | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
| 1 | 108 | .57 | 8.45 am. 1.12.97 | 46.15 | 1 | | 98½ | .45 |
| 2 | 106 | .50 | 10.40 am 1-28-97 | 20225 | 2 | | 97¾ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 98.12 | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 270 |
| At 27½ Candles. | 379 |

| 123 8000 L. | 6.15 pm 1.8.97 | | | | 11.15 pm 1.11.97 | | | | 9.45 am 1.13.97 | | | | 5.30 pm 1.14.97 | | | | 11.15 am 1-16-97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30 | | | | 40 | | | | 60 | | | | 80 | | | | 100 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | .51 | | | 20 | .48 | | | 19 | .47½ | | | 17 | .47 | | | 15½ | .46 | | | 14 | | | | |
| 2 | .50 | | | 23 | .49½ | | | 21½ | .49 | | | 19 | .48½ | | | 17 | .48 | | | 16 | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21½ | | | | 20¼ | | | | 18 | | | | 16.37 | | | | 15 | | | | |
| % | | | | 75.4 | | | | 71.1 | | | | 63.2 | | | | 57.5 | | | | 52.6 | | | | |

ORDER No. 256 Ed: 122

At 28 Candles. Test Started 9.30am. 1-6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .50½ | 4.35pm. 1.6.97 | 6.05 | 1 | | 100½ | .45 |
| 2 | 107¾ | .50½ | 9.55pm. 1.7.97 | 24.10 | 2 | | 98½ | .45 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 15.07 | | | 99½ | .45 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 267 |
| At 28 Candles. | 381 |

ORDER No. 257 Ed: 123

At 28½ Candles. Test Started 9.30am. 1.6.97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | .57 | 4.15 PM 1-20-97 | 326.20 | 1 | | 100 | .45 |
| 2 | 108½ | .57½ | 6.45 PM-2-23-97 | 465.30 | 2 | | 99 | .45½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 99½ | .454 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 382 |

42 B

| | |
|---|---|
| — | 1 |
| — | + |

| Candles per H. P. |
|---|
| 264 |
| 396 |

| Effec | 10.00 A.M. 1-21-97 | | | | 6.10 P.M. 1-22-97 | | | | 10.00 A.M. 1-26-97 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| μμ | 20 | | | | 40 | | | | 60 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 48 | | | 21 | 47 | | | 17 | 46 | | | 15½ | | | | | | | | | | | | |
| 2 | 47½ | | | 20½ | 46½ | | | 17 | 46 | | | 16 | | | | | | | | | | | | |
| 3 | 48 | | | 21 | 47 | | | 16½ | 46½ | | | 16 | | | | | | | | | | | | |
| 4 | 49½ | | | 21½ | 49 | | | 18 | 48 | | | 17 | | | | | | | | | | | | |
| 5 | 49 | | | 21 | 48 | | | 18 | 47 | | | 15¾ | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21 | | | | 17.35 | | | | 16.05 | | | | | | | | | | | | |
| % | | | | 73% | | | | 60.9 | | | | 56.3 | | | | | | | | | | | | |

ORDER No. 258 Ed: 124

At 29 Candles. Test Started 9.30 a.m. 1.6.97

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | .52 | 7.58 p.m. 1.7.97 | 21.65 | 2 | | 100 | .46 |
| 2 | 112½ | .52½ | 8.45 a.m. 1.7.97 | 13.— | 1 | | 102⅓ | .45¼ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | 17.32 | | | 101¼ | .45½ |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 361 |
| At 29 Candles. | 371 |

Burned

42 lb 15

ORDER No. 259 Special/11

At 28½ Candles. Test Started 4.25 PM. 1-19-97

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107½ | 49½ | 7.15 PM 1-28-97 | 93.25 | 1 | | 100¼ | 45 |
| 2 | 108 | 49 | 2.15 PM 2-3-97 | 145.25 | 2 | | 100¾ | 45 |
| 3 | 107½ | 49½ | | | | | 100 | 45 |
| 4 | 107½ | 51 | 3.15 PM. 2-16-97 | 224.25 | 4 | | 99½ | 45¾ |
| 5 | 106½ | 50½ | 5.45 PM 2-11-97 | 231.55 | 3 | | 99½ | 45¾ |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.4 | 49.9 | | | | | 100 | 45.3 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28½ Candles. | 396 |

Candles per H. P.

268

369

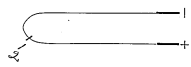
| 260 | 10am 2-4-97 | | | | 9:30 2-5-97 | | | | 9:30 am 2-6-97 | | | | 10:15 AM 2-10-97 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10.15 | | | | 20,15 | | | | 30,15 | | | | 50.15 | | | | | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 57 | | | 26 | 51 | | | 22½ | 50 | | | 21.5 | 49 | | | 17 | | | | | | | | |
| 2 | 50 | | | 26½ | 48½ | | | 22½ | 49 | | | 21 | 48 | | | 17½ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 26.12 | | | | 22.5 | | | | 21¼ | | | | 17¼ | | | | | | | | |
| % | | | | 94.1 | | | | 81.1 | | | | 76.6 | | | | 62.2 | | | | | | | | |

| 261 | 10am 2-4-97 | | | | 9:30am 2-5-97 | | | | 9:30 am 2-6-97 | | | | 10:15 AM 2-10-97 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 (000 L) | 10,15 | | | | 20,15 | | | | 30,15 | | | | 50.15 | | | | | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 51 | | | 26 | 50 | | | 22 | 49¾ | | | 20.5 | 48.5 | | | 16.5 | | | | | | | | |
| 2 | 48½ | | | 25 | 48½ | | | 21 | 47 | | | 19 | 46.5 | | | 15¾ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 25.5 | | | | 21.5 | | | | 19¾ | | | | 16.12 | | | | | | | | |
| % | | | | 92.7 | | | | 78.2 | | | | 71.8 | | | | 58.6 | | | | | | | | |

ORDER No. 260 Ed Co

At 27 3/4 Candles. Test Started 12 M 2-3-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 108 1/2 | 52 | 7 30 am 2-13-97 | 9115 | 1 | | 99 | 45 1/2 |
| 2 | 110 | 51 | 4 25 PM 2-23-97 | 15716 | 2 | | 99 3/4 | 44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109,25 | 51.5 | | | | | 99.37 | 44,75 |

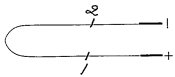



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 268 |
| At 27 3/4 Candles. | 369 |

ORDER No. 261 Ed No 2

At 27 1/2 Candles. Test Started 12 M 2-3-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | 51 | 7 30 AM 2-16-97 | 108.15 | 2 | | 99 3/4 | 44 1/2 |
| 2 | 111 3/4 | 49 | 6 25 PM 2-12-97 | 8810 | 1 | | 101 1/2 | 43 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110,87 | 50 | | | | | 100,37 | 44 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 270 |
| At 27 1/2 Candles. | 371 |

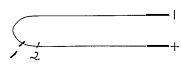
| 262 3 6000 L. | 10 am 2-4-97 10.15 | | | | 9 30 am 2-5-97 20,15 | | | | 9 30 am 2-6-97 30-15 | | | | 10.15 AM 2-10-97 30.15 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 50 | | | 26 | 49 | | | 21 | 48 | | | 19 | 47 | | | 16 | | | | | | | | |
| 2 | 49.75 | | | 25.20 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 25.3 | | | | 21 | | | | 19 | | | | 16 | | | | | | | | |
| % | | | | 93.6 | | | | 76.4 | | | | 68.1 | | | | 58.5 | | | | | | | | |

| 263 4 6000 L. | 10 am. 2-4-97 10.15 | | | | 9 30 am 2-5-97 20,15 | | | | 9 30 am 2-6-97 30,15 | | | | 10.15 AM 2-10-97 50,15 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 51 | | | 26.25 | 50 | | | 22 | 49.5 | | | 21 | 48 | | | 17 | | | | | | | | |
| 2 | 50 | | | 26.25 | 49.6 | | | 22 | 48.5 | | | 20.5 | 47.6 | | | 16.6 | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 25.3 | | | | 22 | | | | 20.3 | | | | 16.62 | | | | | | | | |
| % | | | | 93.7 | | | | 78.5 | | | | 74.1 | | | | 59.4 | | | | | | | | |

ORDER No. 262 Ed C^N

At 27½ Candles. Test Started 12 M. 2-8-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 112½ | 50 | 10^00 A.M. 2-12-97 | 79.45 | 2 | | 101½ | 43½ |
| 2 | 110½ | 50 | 12.15 P.M. 2-4-97 | 10.15 | 1 | | 100¼ | 44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.37 | 50 | | | | | 100.87 | 43.75 |

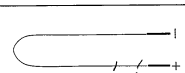



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 270 |
| At 27½ Candles. | 369 |

ORDER No. 263 Ed S^B

At 28 Candles. Test Started 12-M. 2-8-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110½ | 51 | 1.45 PM 2-17-97 | 12.00 | 1 | | 100¼ | 44½ |
| 2 | 111 | 50 | 7.15 PM 2-18-97 | 146.30 | 2 | | 101¼ | 44½ |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110.75 | 50.5 | | | | | 100.75 | 44.5 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 267 |
| At 28 Candles. | 372 |

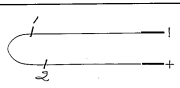
| 264 | 10am 2-4-97 | | | | 9.30am 2-5-97 | | | | 9.30am 2-6-97 | | | | 10.15 AM 2-10-97 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ♂ | 10,15 | | | | 20,15 | | | | 30,15 | | | | 50,15 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 58 | | | 22,5 | 50 | | | 21½ | 49 | | | 20,5 | 50 | | | 17 | | | | | | | | |
| 2 | 52,5 | | | 27 | 52 | | | 23 | 51 | | | 21, | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 26,12 | | | | 22¾ | | | | 20¾ | | | | 17 | | | | | | | | |
| % | | | | 91,7 | | | | 78,8 | | | | 73,5 | | | | 60,2 | | | | | | | | |

| 265 | 10am 2-4-97 | | | | 9.30 AM 2-5-97 | | | | 9.30am 2-6-97 | | | | 10.15 AM 2-10-97 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ♀ Good L. | 10,15 | | | | 20.15 | | | | 30.15 | | | | 50,15 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R* | V | C.P. | A | R | V | C.P. |
| 1 | 54 | | | 22,5 | 53½ | | | 50 | 47 | | | 17 | 47 | | | 15½ | | | | | | | | |
| 2 | 50 | | | 27 | 49 | | | 24 | 48¾ | | | 21¼ | 47½ | | | 18 | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 28¾ | | | | 27 | | | | 19,12 | | | | 16¾ | | | | | | | | |
| % | | | | 99,1 | | | | 94,7 | | | | 67,1 | | | | 58,3 | | | | | | | | |

ORDER No. 264 Ed 3"

At 28 1/4 Candles. Test Started 12, M, 2, 3-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 1/4 | 51 1/2 | 5:50 PM 2-8-97 | 45:20 | 1 | | 99 1/2 | 45 |
| 2 | 110 | 52 1/2 | 5:25 PM 2-18-97 | 144.40 | 2 | | 99 | 45 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 110,12 | 52 | | | | | 99,25 | 45,25 |

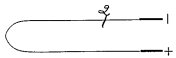



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 265 |
| At 28 1/4 Candles. | 367 |

ORDER No. 265 Ed 5"

At 28 1/2 Candles. Test Started 12, M, 2, 3-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 98 1/4 | 53 1/4 | | | | | 98 | 47 |
| 2 | 112 1/4 | 50 | 2:15 PM 2-19-97 | 154.00 | 1 | | 101 1/4 | 44 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105,25 | 51,62 | | | | | 99,62 | 45,5 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 264 |
| At 28 1/2 Candles. | 390 |

| 266 7 | 10am 2-4-97 10,15 | | | | 9:30 2-5-97 20,15 | | | | 9:30am 2-6-97 30,15 | | | | 10.15AM 2-10-97 30 15 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 5.2 | | | 26 | 57 | | | 22 | 58.5 | | | 20.5 | 49 | | | 16½ | | | | | | | | |
| 2 | 5.3 | | | 26.5 | 52½ | | | 22 | 51.5 | | | 20.5 | 50½ | | | 16½ | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 26½ | | | | 22 | | | | 20.5 | | | | 16½ | | | | | | | | |
| % | | | | 91.3 | | | | 76.5 | | | | 71.3 | | | | 57.4 | | | | | | | | |

| 000 1. | 290 34 hrs 9th am 12.18.97 | | | | 431.45 7 30am 1.6.98 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 39 | | | 11 | 37¾ | | | 10 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 39 | | | 10⅞ | 38 | | | 10 | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 10.87 | | | | 10 | | | | | | | | | | | | | | | | |
| % | | | | 43.5 | | | | 40 | | | | | | | | | | | | | | | | |

| | 7:45 am 11-30-97 | | | | 7:30 am 12-1-97 | | | | 7:15 am 12-2-97 | | | | 7:15 am 12-3-97 | | | | 7:15 am 12-4-97 | | | | 2:32 pm 12-10-97 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 L. | 134.50 hrs | | | | 144.50 hrs | | | | 154.50 hrs | | | | 164.50 hrs | | | | 174.50 | | | | 2.24.30 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 39 | | | 12½ | 39 | | | 12 | 38 | | | 11½ | 37½ | | | 12½ | 37½ | | | 12½ | 37½ | | | 12 |
| 2 | 37½ | | | 12 | | | | | | | | | | | | | | | | | | | | |
| 3 | 39 | | | 13 | 39 | | | 12½ | 38 | | | 12 | 38 | | | 12 | 38 | | | 12 | 38 | | | 12 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 41 | | | 12½ | | | | | | | | | | | | | | | | | | | 0 | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 12.5 | | | | 12.12 | | | | 11.87 | | | | 12.37 | | | | 12.37 | | | | 1 |
| % | | | | 50 | | | | 48.5 | | | | 47.5 | | | | 51.5 | | | | 49.5 | | | | 4 |

| | 4:30 PM 11-19-97 71¾ | | | | 10 am 11-22-97 83¾ hrs | | | | 12.15 PM 11-23-97 93 hrs | | | | 1.45 PM 11-24-97 103¾ hrs | | | | 12.45 PM 11-26-97 113¾ hrs | | | | 12.15 pm 11-27-97 124.50 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 40 | | | 15½ | 40 | | | 14½ | 39 | | | 14½ | 39½ | | | 14½ | 39 | | | 13¾ | 38½ | | | 13 |
| 2 | 39 | | | 14¾ | 39½ | | | 13½ | 39 | | | 12¾ | 38½ | | | 12 | 39½ | | | 12 | 38 | | | 12 |
| 3 | 40 | | | 15½ | 40 | | | 14¾ | 39.5 | | | 13½ | 40 | | | 13½ | 39½ | | | 12¾ | 39 | | | 13 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 43 | | | 16 | 42½ | | | 15 | 42.5 | | | 14¾ | 42½ | | | 13¾ | 42½ | | | 13¾ | 42 | | | 12 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.31 | | | | 14.37 | | | | 13.62 | | | | 13.37 | | | | 12.81 | | | | 12 |
| % | | | | 61.2 | | | | 57.5 | | | | 54.5 | | | | 53.5 | | | | 51.2 | | | | 5 |

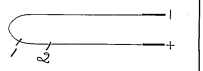
| Female 11-12-97 | 9 AM 11-16-97 | 8 PM 11-16-97 | 5:30 PM 11-16-97 | 5 PM 11-17-97 | 5:30 PM 11-18-97 |
|---|---|---|---|---|---|
| Rearing Cage 3.0 4:30 PM | 23 2/7 | 31 1/7 | 41 1/7 | 51 1/7 | 61 3/7 |

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 42 | | | 23 1/7 40 | | | | 20 | 40 1/7 | | | 19 1/7 40 | | | | 18 1/7 40 | | | | 17 40 | | | | 16 |
| 2 | 42 1/7 | | | 22 1/7 40 | | | | 18 | 40 | | | 17 1/7 40 | | | | 16 1/7 40 | | | | 14 2/7 38 1/7 | | | | 14 |
| 3 | 42 1/7 | | | 24 42 | | | | 19 2/7 | 41 | | | 19 41 | | | | 18 40 1/7 | | | | 17 39 1/7 | | | | 16 |
| 4 | 42 1/7 | | | 20 42 | | | | 20 | 41 | | | 18 2/7 | | | | | | | | | | | | |
| 5 | 43 | | | 24 43 | | | | 20 2/7 | 44 | | | 19 1/7 43 | | | | 17 1/7 43 | | | | 16 1/7 42 | | | | 16 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 23.4 | | | | 19.70 | | | | 18.7 | | | | 17.02 | | | | 16.2/2 | | | | 15 |
| % | | | | 93.6 | | | | 78.8 | | | | 74.8 | | | | 70.8 | | | | 65.2 | | | | 67 |

ORDER No. 266 Ed. F^E

At 28 3/4 Candles. Test Started 12 M. 2-3-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 111 | 52 1/2 | 6^45 PM 2-10-97 | 60.00 | 1 | | 100 | 45 1/2 |
| 2 | 108 | 53 | 3^45 PM 2-18-97 | 142.30 | 2 | | 97 3/4 | 46 1/2 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.5 | 52.75 | | | | | 98.87 | 46 |

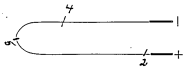



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 262 |
| At 28 3/4 Candles. | 371 |

ORDER No. 267 Lamp Factory Film

At 25 Candles. Test Started 4:30 P.M. 11-11-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 119 | 48 | | | | | 111 | .38 |
| 2 | 118 | 48 | 12.25 PM 11-30-97 | 114.00 | 2 | | 110 | .38 |
| 3 | 116 | 43 | | | | | 107 | .38 |
| 4 | 115 | 44 | 4:30 P.M. 11-16-97 | 40-20 | 1 | | 107 | .39 |
| 5 | 112 | 46 | 2^15 PM 11-30-97 | 148.50 | 3 | | 103 | .41 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 116 | 43.5 | | | | | 107.6 | 35.8 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 286 |
| At 25 Candles. | 367 |

268 | 1145 P.M. 11-26-97 | 6 7/12 hrs

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 89 | | | 21 1/2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 21 1/2 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 71.1 | | | | | | | | | | | | | | | | | | | | |

After Re-Exhausting

209 hrs 9-4-am 12-15-97 | 350 hrs 7.30 am 1.6.98

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 40 | | | 10 1/2 | 38 1/2 | | | 9 1/2 | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 41 | | | 11 | 39 1/2 | | | 10 | | | | | | | | | | | | | | | | |
| 5 | 40 | | | 10 1/2 | 39 | | | 9 1/2 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 10.66 | | | | 9.66 | | | | | | | | | | | | | | | | |
| % | | | | 47.3 | | | | 42.9 | | | | | | | | | | | | | | | | |

| Bambro | 11-12-97 10 7:30 PM | | | | 9 AM 11-15-97 23½ | | | | 8 PM 11-15-97 31½ | | | | 5:30 PM 11-16-97 41½ | | | | 1:15 PM 11-17-97 47½ | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | |
| 1 | 90 | | | 47 | 95 | | | 46½ | 90 | | | 44 | | | | | | | | | | | | |
| 2 | 97 | | | 46 | 90 | | | 46 | 90 | | | 87 | 94 | | | 81 | 92 | | | 26 | | | | |
| 3 | 96 | | | 45.5 | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 46.17 | | | | 46½ | | | | 40½ | | | | 81 | | | | 26 | | | | |
| % | | | | 102.6 | | | | 103 | | | | 90 | | | | 65.9 | | | | 57.8 | | | | |

| 268 | 20 hrs | | | | 9 Am 11-27-97 40 hrs | | | | 4 PM 11-30-97 60 hrs | | | | 4 PM 12-2-97 80 hrs | | | | 1:30 PM 12-6-97 102.30 | | | | 9 Am 12-11-97 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 L. | 6 PM 11-23-97 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 42½ | | | 18½ | 41 | | | 15 | 40½ | | | 14 | | | | | | | | | | | | |
| 2 | 42 | | | 19 | 41 | | | 15½ | 41 | | | 14¾ | 40 | | | 13¾ | 40 | | | 13 | 39 | | | 12 |
| 3 | 42½ | | | 19¾ | 41½ | | | 16¼ | 41½ | | | 15 | 41 | | | 14 | 40 | | | 13¾ | 40 | | | 11½ |
| 4 | 43 | | | 19¾ | 42½ | | | 16¾ | 42½ | | | 15½ | 41½ | | | 14½ | 41 | | | 14 | 40 | | | 12 |
| 5 | 43 | | | 19 | 42 | | | 16 | 42 | | | 14¾ | 40 | | | 13½ | 40 | | | 13½ | 38 | | | 12 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 19.2 | | | | 15¾ | | | | 14.4 | | | | 14 | | | | 13½ | | | | 11.87 |
| % | | | | 80.3 | | | | 70.9 | | | | 65.8 | | | | 62.2 | | | | 57.7 | | | | 52.8 |

ORDER No. 268 Bamboo.

At 45 Candles. Test Started 4:30 P.M. 11-11-97 At 16 Candles.

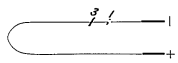
| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 113 | .90 | 10:40 A.M. 11-12-97 | 3435 | 2 | | 95 | .72 |
| 2 | 113 | .97 | Broken 11-22-97 10:55 A.M. 11-17-97 | 47½ | Taken down to be photographed | | 94½ | .77 |
| 3 | 109 | .96 | 10:30 A.M. 11-13-97 | 18th | 1 | | 92 | .76 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 111.7 | .943 | | | | | 93.83 | .75 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 197 |
| At 45 Candles. | 319 |

ORDER No. 269 Box 1

At 22½ Candles. Test Started 9 A.M. 11-22-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104 | .44 | 4:15 P.M. 12-1-97 | 6912 hrs | 1 | | 95.5 | .40 |
| 2 | 105 | .43 | | | | | 98 | .39 |
| 3 | 104.5 | .43 | 3:30 P.M. 12-13-97 | 15945 | 2 | | 99 | .40 |
| 4 | 106 | .43.5 | | | | | 100 | .40 |
| 5 | 105 | .44 | | | | | 99 | .40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 104.9 | 43.5 | | | | | 98.9 | 39.8 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 804 |
| At 22½ Candles. | 369 |

209 hrs
9 45am 12-18-97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 41 | | | 11 | | | | | | | | | | | | | | | | | | | | |
| 2 | 39 1/2 | | | 10 3/4 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 10.75 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 43 | | | | | | | | | | | | | | | | | | | | |

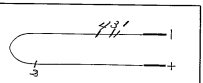
209 hrs 350 hrs
9 45am 12-18-97 7 30am 1.6.98

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 38 1/4 | | | 10 3/4 | 37 | | | 9 1/4 | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 10.75 | | | | 9.25 | | | | | | | | | | | | | | | | |
| % | | | | 43 | | | | 43 | | | | | | | | | | | | | | | | |

| 270 (000) L. | 20 hrs 6PM 11-23-97 | | | | 40 hrs 9am 11-27-97 | | | | 60 hrs 4PM 11-30-97 | | | | 80 hrs 4PM 12-2-97 | | | | 102, 30 1:30PM 12-6-97 | | | | 9am 12-11-97 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 44 | | | 20½ | 44 | | | 17 | 43 | | | 15½ | 42½ | | | 13½ | 42½ | | | 14½ | 40 | | | 12½ |
| 2 | 45 | | | 20 | 45 | | | 16½ | 44½ | | | 15¾ | 44 | | | 15 | 43 | | | 13½ | | | | |
| 3 | 45 | | | 20½ | 45 | | | 17 | 44½ | | | 15½ | 44 | | | 14½ | 42½ | | | 13½ | | | | |
| 4 | 42 | | | 19 | 43 | | | 16 | 42 | | | 15 | 41 | | | 14½ | 40 | | | 13½ | 38 | | | 11¾ |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 19.4 | | | | 16.68 | | | | 15.31 | | | | 14.81 | | | | 13.25 | | | | 12.12 |
| % | | | | 79.7 | | | | 66.7 | | | | 61.2 | | | | 59.2 | | | | 55 | | | | 48.0 |

| 271 | 20 hrs 6PM 11-23-97 | | | | 40 hrs 9am 11-27-97 | | | | 60 hrs 4PM 11-30-97 | | | | 80 hrs 4PM 12-2-97 | | | | 102, 30 1:30PM 12-6-97 | | | | 150 hrs 9am 12-11-97 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 40 | | | 19 | 40 | | | 16 | 40 | | | 14½ | 39½ | | | 13½ | 39 | | | 12½ | 37½ | | | 10¾ |
| 2 | 40 | | | 18¾ | 40 | | | 16 | 40 | | | 14 | 40 | | | 13¾ | 39 | | | 13½ | | | | |
| 3 | 40 | | | 19 | 39½ | | | 16½ | 40 | | | 15 | | | | | | | | | | | | |
| 4 | 40½ | | | 18½ | 40 | | | 16 | 40 | | | 14½ | 40 | | | 13½ | 39 | | | 12¾ | | | | |
| 5 | 37½ | | | 17 | 37 | | | 15 | 37 | | | 14 | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 18.45 | | | | 15.9 | | | | 14.35 | | | | 13.55 | | | | 12.91 | | | | 10.7 |
| % | | | | 85.8 | | | | 74 | | | | 66.7 | | | | 63.2 | | | | 60 | | | | 50 |

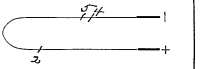
ORDER No. 270 Box 2




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 256 |
| At 25 Candles. | 377 |

| At 25 Candles. 95 Test Started 9 A.M. 11-22-97 | | | | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
| 1 | 109 | .45 | 7 30 am 12 24 97 | 2514 hrs | 4 | | 101 | .40.5 |
| 2 | 109 | .46 | 3 13 PM 12-8-97 | 123.15 | 2. | | 101 | .42. |
| 3 | 109 | .46 | 7 30 am 12-8-97 | 115.20 | 1 | | 102 | .42 |
| 4 | 110 | .44 | 3 10 PM 12.23.97 | 250.40 | 3 | | 102 | .40 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.25 | 45.25 | | | | | 101.5 | 41.2 |

ORDER No. 271 Box 3




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 312 |
| At 21½ Candles. | 370 |

| At 21½ Candles. Test Started 9 A.M. | | | | | | | At 16 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
| 1 | 107 | 41 | | | | | 101 | .35 |
| 2 | 104.5 | 41.5 | 5 10 PM 12-6-97 | 103.10 | 3 | | 99 | .39 |
| 3 | 107 | 41 | Exp. elec 7 am 12-1-97 | 60 hrs | 1 | | 102 | .35 |
| 4 | 105 | 41.5 | 1 30 PM 12-8-97 | 121.20 | 4 | | 100 | .39 |
| 5 | 105.5 | 39 | 3 30 PM 12-2-97 | 79.00 | 2 | | 103 | .35 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.4 | 40.5 | | | | | 101 | 37.5 |

20.9 hrs 35.0 hrs
9:45 am 12-15-97 7:30 am 1.6.98

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 38½ | | | 10½ | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 39 | | | 10 | | | | | | | | | | | | | | | | | | | | |
| 4 | 40½ | | | 10½ | | | | | | | | | | | | | | | | | | | | |
| 5 | 40 | | | 10½ | 38½ | | | 9.25 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 10.25 | | | | 9.25 | | | | | | | | | | | | | | | | |
| % | | | | 49 | | | | 107 | | | | | | | | | | | | | | | | |

20.9 hrs 35.0 hrs
9:45 am 12-15-97 7:30 am 1.6.98

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 41½ | | | 12 | 40 | | | 10½ | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 12 | | | | 10.5 | | | | | | | | | | | | | | | | |
| % | | | | 50 | | | | 43.8 | | | | | | | | | | | | | | | | |

| 273 | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102, 30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 PM 11-23-97 | | | | 9 am 11-27-97 | | | | 4 PM 11-30-97 | | | | 4 PM 12-2-97 | | | | 1 30 PM 12-6-97 | | | | 9 am 12-11-97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 41 | | | 19½ 40 | | | | 16½ 40 | | | | 13 39 | | | | 12½ 38 | | | | 12½ 37½ | | | | 11 |
| 2 | 41 | | | 18½ 40 | | | | 13½ 40 | | | | 14½ | | | | | | | | | | | | |
| 3 | 42 | | | 18½ 40½ | | | | 13½ 39 | | | | 14½ 40 | | | | 13.25 39½ | | | | 13 38 | | | | 11½ |
| 4 | 42½ | | | 18¾ 42½ | | | | 16½ 42½ | | | | 14 40½ | | | | 13.25 40 | | | | 12½ 40 | | | | 11½ |
| 5 | 42½ | | | 19½ 42 | | | | 16½ 41 | | | | 14½ 40 | | | | 13.00 40 | | | | 12½ 38 | | | | 11½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.85 | | | | 16 | | | | 14.5 | | | | 13.37 | | | | 12.75 | | | | 11 |
| % | | | | 82.2 | | | | 74.7 | | | | 63.7 | | | | 58.8 | | | | 56.1 | | | | 4 |

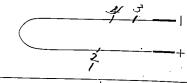
R-1.5

| 273 | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102,30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000 L. | 6 PM 11-23-97 | | | | 9 am 11-27-97 | | | | 4 PM 11-30-97 | | | | 4 PM 12-2-97 | | | | 1 30 PM 12-6-97 | | | | 9 am 12-11-97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 44 | | | 20½ 42½ | | | | 16½ 42 | | | | 15½ 42 | | | | 14¾ 41 | | | | 14 39 | | | | 12 |
| 3 | 44 | | | 20 43 | | | | 17 43 | | | | 16 43 | | | | 15 42 | | | | 14½ 40½ | | | | 12½ |
| 4 | 45 | | | 19½ 44 | | | | 16¾ 44 | | | | 15½ 44 | | | | 14¾ 43 | | | | 14½ | | | | |
| 5 | 42.50 | | | 19½ 42½ | | | | 16¾ 42½ | | | | 15 40 | | | | 14 40 | | | | 13½ 38 | | | | 11½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.8 | | | | 16.25 | | | | 15.5 | | | | 14.5 | | | | 14 | | | | 12.0 |
| % | | | | 82.5 | | | | 67.8 | | | | 64.6 | | | | 60.4 | | | | 58.3 | | | | 50 |

ORDER No. 272 Box 4

At 22 3/4 Candles. Test Started 9 A.M. 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107 | .42 | 5-12 Pm 12-20-97 | 305.15 | 2 | | 101 | .38 |
| 2 | 106.5 | .42 | 1 Pm 12-1-97 | 166.10 | 1 | | 100 | .39 |
| 3 | 104 | .43 | 9 40 am 1-5-98 | 341.15 | 4 | | 99 | .39 |
| 4 | 104 | .44 | 5 30 Pm 12.31-97 | 316.30 | 3 | | 98 | .40 |
| 5 | 105 | .44 | | | | | 99 | .40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105.3 | .43 | | | | | 99.4 | .39.2 |

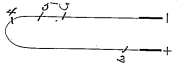


| | Candles per H. P. |
|---|---|
| At 16 Candles. | 306 |
| At 22 3/4 Candles. | 375 |

ORDER No. 278 Box 5

At 24 Candles. Test Started 9 A.M. At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106.5 | .45 | Failure burner | | | | 99 | .41 |
| 2 | 109.5 | .44.5 | 12 40 Pm 12-17-97 | 300.15 | 2 | | 102 | .40 |
| 3 | 106 | .45 | 5 Pm. 1.10.98 | 381.15 | 4 | | 99 | .41 |
| 4 | 106 | .45 | 10 30 AM-12-8-97 | 118.3 | 1 | | 100 | .41 |
| 5 | 111 | .43 | 9 15 Pm 12-18-97 | 208.30 | 3 | | 103 | .40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.8 | 44.5 | | | | | 100.6 | 40.6 |



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 293 |
| At 24 Candles. | 372 |

20 g hr
9 45 am 12-18-97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 40 | | | 11 | | | | | | | | | | | | | | | | | | | | |
| 2 | 41 | | | 11½ | | | | | | | | | | | | | | | | | | | | |
| 3 | 41½ | | | 11 | | | | | | | | | | | | | | | | | | | | |
| 4 | 40½ | | | 12 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11 3/4 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 47 1/2 | | | | | | | | | | | | | | | | | | | | |

20 g hr
9 45 am 12-18-97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 41 | | | 12 | | | | | | | | | | | | | | | | | | | | |
| 4 | 40½ | | | 10 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 46 1/2 | | | | | | | | | | | | | | | | | | | | |

274 20 hrs 6 PM 11-23-97 | 40 hrs 9 am 11-27-97 | 60 hrs 4 PM 11-30-97 | 80 hrs 4 PM 12-2-97 | 102,30 130 Pm 12-6-97 | 150 9 am 12-11-97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 42½ | | | 19 | 42½ | | | 16 | 42 | | | 15½ | 41 | | | 13½ | 40 | | | 12½ | 39 | | | 11 |
| 2 | 44 | | | 19 | 43 | | | 16½ | 43 | | | 15 | 42½ | | | 14½ | 41½ | | | 13 | 40 | | | 11 |
| 3 | 44½ | | | 20 | 44 | | | 17 | 44 | | | 15½ | 42½ | | | 14½ | 42½ | | | 13½ | 40½ | | | 12 |
| 4 | 42½ | | | 19½ | 42½ | | | 16½ | 42½ | | | 15 | 42 | | | 14½ | 41 | | | 13½ | 40 | | | 12 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.37 | | | | 16.43 | | | | 15.18 | | | | 14.18 | | | | 13.06 | | | | |
| % | | | | 81.6 | | | | 69.3 | | | | 63.9 | | | | 59.7 | | | | 55 | | | | |

ORDER NO. 275

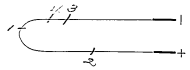
275 20 hrs 6 PM 11-23-97 | 40 hrs 9 am 11-27-97 | 60 hrs 4 PM 11-30-97 | 80 hrs 4 PM 12-2-97 | 102,30 130 Pm 12-6-97 | 150 9 am 12-11-97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 41½ | | | 20 | 40 | | | 16½ | 40 | | | 15½ | 40 | | | 14½ | 39 | | | 12½ | 37½ | | | 11 |
| 2 | 43 | | | 19½ | 43 | | | 15½ | 42 | | | 14 | 41 | | | 13½ | 40 | | | 12½ | 38 | | | 11 |
| 3 | 43 | | | 20½ | 43 | | | 17 | 42½ | | | 15½ | 42½ | | | 14½ | 43 | | | 13½ | 39 | | | 12 |
| 4 | 44 | | | 20 | 43½ | | | 16½ | 42½ | | | 14½ | 42½ | | | 14 | 41 | | | 13 | 39½ | | | 11 |
| 5 | 40 | | | 19½ | 40 | | | 16 | 39 | | | 14½ | 39 | | | 14 | 39 | | | 13 | 37 | | | 11 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.75 | | | | 16.35 | | | | 14.85 | | | | 14.1 | | | | 13.00 | | | | 11 |
| % | | | | 83.3 | | | | 68.8 | | | | 62.5 | | | | 57.4 | | | | 54.9 | | | | 44 |

ORDER NO. 274 Box 6

At $23\frac{3}{4}$ Candles. Test Started 9. A.M. 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107 | 43 | 245 pm 12.21.97 | 313.45 | 4 | | 101 | 40 |
| 2 | 104 | 44.5 | 215 pm. 12.21.97 | 271.45 | 3 | | 95 | 40 |
| 3 | 107 | 45 | 745 am 12.22.97 | 265.15 | 2 | | 101 | 42 |
| 4 | 107.5 | 44 | 940 am 12.24.97 | 231.10 | 1 | | 101 | 40 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.37 | 44.12 | | | | | 100.25 | 40.5 |

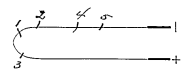



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 294 |
| At $23\frac{3}{4}$ Candles. | 375 |

ORDER NO. 275 Box 7

At $23\frac{3}{4}$ Candles. Test Started 9. A.M. 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | 42 | 1120 am 12-13-97 | 155.45 | 2 | | 103.5 | 38 |
| 2 | 108 | 43 | 1105 am 12-16-97 | 177.30 | 3 | | 102 | 40 |
| 3 | 107.5 | 43.5 | 905 am 12.21.97 | 223.20 | 5 | | 102 | 40.5 |
| 4 | 105 | 44.5 | 540 pm 12-20.97 | 220.10 | 4 | | 102 | 40.5 |
| 5 | 111 | 42 | 740 am 12-13-97 | 151.55 | 1 | | 106 | 38 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.9 | 48 | | | | | 103.1 | 39.4 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 294 |
| At $23\frac{3}{4}$ Candles. | 375 |

| | | |

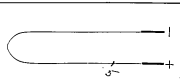
| 2.76 | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102.30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 r. | 6 Pm 11-23-97 | | | | 9 am 11-27-97 | | | | 4 Pm 11-30-97 | | | | 4 Pm 12-2-97 | | | | 1:30 Pm 12-6-97 | | | | 9 am 12-11-9 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 44 | | | 20½ | 43 | | | 17 | 42½ | | | 15¼ | 42½ | | | 14 | 42 | | | 13¾ | 40 | | | 11 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 43 | | | 19¾ | 42½ | | | 16½ | 42½ | | | 15 | 42½ | | | 14 | 41½ | | | 13¾ | 40 | | | 12 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20 | | | | 16.75 | | | | 15.12 | | | | 14 | | | | 13.75 | | | | 11 |
| % | | | | 86.4 | | | | 72 | | | | 65.1 | | | | 60.2 | | | | 58.1 | | | | 5 |

| | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102.30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 Pm 11-23-97 | | | | 9 am 11-27-97 | | | | 4 Pm 11-30-97 | | | | 4 Pm 12-2-97 | | | | 1:30 Pm 12-6-97 | | | | 9 am 12-11-9 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 44½ | | | 19 | 44 | | | 16 | 44 | | | 14½ | | | | | | | | | | | | |
| 2 | 43 | | | 18½ | 43 | | | 16 | 40 | | | 12½ | | | | | | | | | | | | |
| 3 | 43 | | | 19¼ | 42 | | | 15¾ | 42½ | | | 15 | 40 | | | 13 | 40 | | | 12¼ | 38 | | | 11 |
| 4 | 44 | | | 19 | 43 | | | 16½ | | | | | " | | | | | | | | | | | |
| 5 | 43 | | | 19 | 42½ | | | 16¼ | 42½ | | | 14½ | 42 | | | 13¾ | 41 | | | 12¾ | 40 | | | 11 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| Ave. | | | | 18.85 | | | | 16.1 | | | | 14.12 | | | | 13.37 | | | | 12.5 | | | | 4 |
| % | | | | 75.9 | | | | 67.1 | | | | 58.9 | | | | 55.7 | | | | 53 | | | | |

ORDER No. 276 Box 8

At 23 1/7 Candles. Test Started 9 A.M. 11-22-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 103 | 44 | | | | | 98 | 42 |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | 103.5 | 44 | 11^00 am 12.31.97 | 310 hr | 1 | | 98 | 40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 103.25 | 44 | | | | | 98 | 41 |

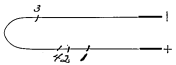



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 298 |
| At 23 1/7 Candles. | 381 |

ORDER No. 277 Box 9

At 24 Candles. Test Started 9 A.M. 11-22-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (Minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 105 | 45 | 9^30 am 12-2-97 | 73½ hrs | 3 | | 100 | 42 |
| 2 | 105 | 44 | 9^35 am 11-29-97 | 41-2½ hrs | 1 | | 100 | 40 |
| 3 | 105 | 44 | 10^20 am 12-16-97 | 176.35 | 4 | | 101.5 | 40 |
| 4 | 106 | 45 | 5^10 PM 12-1-97 | 70½ hrs | 2 | | 99 | 41 |
| 5 | 105 | 44.5 | | | | | 100 | 41 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105.8 | 44.5 | | | | | 100.1 | 40.8 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 293 |
| At 24 Candles. | 397 |

| | | |

Candles per H. P.

291

383

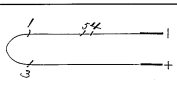
| | 20 hrs. | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102,30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6 PM 11-23-97 | | | | 9 am 11-27-97 | | | | 4 PM 11-30-97 | | | | 4 PM 12-2-97 | | | | 1 30 PM 12-6-97 | | | | 9 am 12-11-97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 44 | | | 20 | 44 | | | 17 42½ | | | | 15½ 42½ | | | | 15 42½ | | | | 14½ 40½ | | | | 12 |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 42½ | | | 19½ 42 | | | | 16 42 | | | | 15 | 42 | | | 14.5 41 | | | | 13½ 40 | | | | 1 |
| 4 | 43 | | | 19¾ 42 1/10 | | | | 15¾ | | | | | | | | | | | | | | | | |
| 5 | 43 | | | 20 42½ | | | | 16¼ 42½ | | | | 13¾ 42½ | | | | 14½ 42 | | | | 13½ 40 | | | | 12 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.81 | | | | 16.37 | | | | 15.41 | | | | 14.75 | | | | 13.75 | | | | 12 |
| % | | | | 57.2 | | | | 67.5 | | | | 63.6 | | | | 60.8 | | | | 56.7 | | | | 4 |

| | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102,30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 6 PM 11-23-97 | | | | 9 am 11-27-97 | | | | 4 PM 11-30-97 | | | | 4 PM 12-2-97 | | | | 1 30 PM 12-6-97 | | | | 9 am 12-11-97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 42½ | | | 20 | 42 | | | 16½ 41 | | | | 14¾ 41 | | | | 13½ | 40 | | | 12½ | 38 | | | 11 |
| 2 | 45 | | | 20 | 44 | | | 16 48 | | | | 14½ 48 | | | | 14½ | 43 | | | 13 | 42 | | | 11½ |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 45 | | | 20 | 44 | | | 16½ 44 | | | | 15½ | 43 | | | 14 | 42½ | | | 13½ | 41 | | | 12 |
| 5 | 44 | | | 20 | 43 | | | 16½ 42½ | | | | 15 | 41 | | | 13½ | 40½ | | | 12½ | 40 | | | 11½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20 | | | | 16.37 | | | | 14.93 | | | | 13.81 | | | | 12.81 | | | | 11 |
| % | | | | 81.8 | | | | 66.8 | | | | 61 | | | | 56.4 | | | | 52.6 | | | | 4 |

ORDER No. 278 Box 10

At 24½ Candles. Test Started 9 A.M. 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. HOURS. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106.5 | 45 | 4:40 Pm 1.7.98 | 366.15 | 4 | | 101 | 42 |
| 2 | | [illegible] | | | | | | |
| 3 | 106.5 | 43.5 | 4:15 Pm 1.7.98 | 336.45 | 3 | | 101 | 40 |
| 4 | 108 | 44 | 5 P.M. 11-29-97 | 50 hrs | 1 | | 102 | 40 |
| 5 | 107.5 | 45 | 9 am 12.20.97 | 211.30 | 2 | | 101 | 40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.12 | 44.12 | | | | | 101.25 | 40.5 |

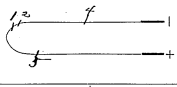



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 291 |
| At 24½ Candles. | 383 |

ORDER No. 279 Box 11

At 24½ Candles. Test Started 9 A.M. 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. HOURS. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107 | 43.5 | 7:15 am 12-13-97 | 151.30 | 1 | | 101.5 | 40 |
| 2 | 104 | 45 | 12:20 Pm 12.28.97 | 179.45 | 3 | | 99 | 42 |
| 3 | 104 | | | | | | 100 | |
| 4 | 106.5 | 45 | 3:00 Pm 12.27.97 | 293 hrs | | | 101 | 42 |
| 5 | 107 | 40 | 5:30 Pm 12.12.97 | 161.45 | 2 | | 100 | 40 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.12 | 44.62 | | | | | 100.37 | 41 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 290 |
| At 24½ Candles. | 385 |

| | 209 hrs | | | | 350 hrs | | | |

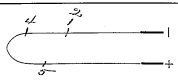
| | 20 hrs 6 PM 11-23-97 | | | | 40 hrs 9 am 11-27-97 | | | | 60 hrs 4 PM 11-30-97 | | | | 80 hrs 4 PM 12-2-97 | | | | 102, 30 1:30 PM 12-6-97 | | | | 150 9 am 12-11- | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 44 | | | 19½ | 44 | | | 16¾ | 43 | | | 15½ | 43 | | | 14½ | 42 | | | 13½ | 40 | | | 12 |
| 2 | 43 | | | 20 | 44 | | | 17 | 42½ | | | 15½ | 42½ | | | 14½ | 42 | | | 13½ | 40 | | | 12 |
| 3 | 45 | | | 20 | 45 | | | 17 | 45 | | | 15½ | 45 | | | 14½ | 43½ | | | 13½ | 42½ | | | 12½ |
| 4 | 43 | | | 19½ | 42½ | | | 16½ | 42 | | | 14½ | 42 | | | 14 | 42 | | | 13½ | 40 | | | 11½ |
| 5 | 42½ | | | 18 | 43 | | | 15 | 42½ | | | 14 | 42 | | | 12½ | 41 | | | 11½ | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.4 | | | | 16.45 | | | | 14.70 | | | | 14.1 | | | | 13.10 | | | | 11.8 |
| % | | | | 80 | | | | 67.8 | | | | 61.6 | | | | 58.1 | | | | 54.2 | | | | 48. |

| | 20 hrs 6 PM 11-23-97 | | | | 40 hrs 9 am 11-27-97 | | | | 60 hrs 4 PM 11-30-97 | | | | 80 hrs 4 PM 12-2-97 | | | | 102,30 1:30 PM 12-6-97 | | | | 150 9 am 12-11-9 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 36 | | | 17½ | 36½ | | | 14½ | | | | | | | | | | | | | | | | |
| 2 | 40 | | | 18½ | 40 | | | 16 | 39 | | | 15 | 39 | | | 14 | 39 | | | 13½ | 37½ | | | 11 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 36 | | | 17 | 35 | | | 14½ | 35 | | | 13½ | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 17.33 | | | | 14.83 | | | | 14.12 | | | | 14 | | | | 13.20 | | | | 11 |
| % | | | | 81.7 | | | | 69 | | | | 65.7 | | | | 65.1 | | | | 61.6 | | | | 39 |

ORDER NO. 280 Box 13

At 24 1/4 Candles. Test Started 9 AM 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. HOURS. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 105 | 45 | 8.19 am 1.4.98 | 329.15 | 2 | | 99 | 41 |
| 2 | 106 | 44.5 | 10.20 am 1.6.98 | 341.30 | 3 | | 100 | 40 |
| 3 | 103 | 42 | | | | | 98 | 42 |
| 4 | 106.5 | 44 | 9.45 am 1.11.98 | 386 | 4 | | 101 | 40 |
| 5 | 108 | 45 | 2.10 PM 12-9-97 | 128.10 | 1 | | 102 | 41 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105.7 | 44.1 | | | | | 100 | 40.9 |

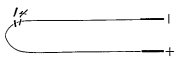



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 291 |
| At 24 1/4 Candles. | 388 |

ORDER NO. 281 Box 14

At 21 1/2 Candles. Test Started 9 AM 11-22-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. HOURS. | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 110 | 37 | 10.55 AM 11-29-97 | 43.55 | 1 | | 106 | 35 |
| 2 | 106 | 40 | | | | | 103 | 39 |
| 3 | | | | | | | | |
| 4 | 109 | 37 | 10.30 am 12-1-97 | 63½ | 2 | | 105 | 35 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.33 | 38 | | | | | 104.66 | 36.33 |




| | Candles per H. P. |
|---|---|
| At 16 Candles. | 314 |
| At 21 1/2 Candles. | 389 |

| | 209 hrs | | | | 350 hrs | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 L | 9:40 am 12,18,97 | | | | 7:20 am 1,6,98 | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 41½ | | | 11½ | 40 | | | 9½ | | | | | | | | | | | | | | | | | | | | |
| 2 | 40½ | | | 11½ | 39½ | | | 9½ | | | | | | | | | | | | | | | | | | | | |
| 3 | 41½ | | | 11½ | 40 | | | 9½ | | | | | | | | | | | | | | | | | | | | |
| 4 | 41½ | | | 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 41½ | | | 12 | 39½ | | | 10 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.65 | | | | 9.68 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 48 | | | | 39.9 | | | | | | | | | | | | | | | | | | | | |

| | 209 hrs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 L | 9:40 am 12,18,97 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 40 | | | 11½ | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.5 | | | | | | | | | | | | | | | | | | | | | | | | |
| % | | | | 47.9 | | | | | | | | | | | | | | | | | | | | | | | | |

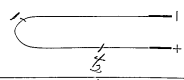
| | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102,30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 c. | 60 Pm 11-23-97 | | | | gam 11-27-97 | | | | 48 Pm 11-30-97 | | | | 48 Pm 12-2-97 | | | | 120 Pm 12-6-97 | | | | gam 12-11-97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 44 | | | 20 | 44 | | | 17 | 42½ | | | 15½ | 42½ | | | 14½ | 42½ | | | 13½ | 40½ | | | 12½ |
| 2 | 43½ | | | 20 | 42 | | | 16½ | 42½ | | | 15½ | 42 | | | 14½ | 42 | | | 13½ | 40 | | | 12½ |
| 3 | 43 | | | 19½ | 42½ | | | 17 | 42½ | | | 15½ | 42 | | | 14½ | 42 | | | 13½ | 40 | | | 12½ |
| 4 | 44 | | | 20 | 43 | | | 16½ | 42½ | | | 15½ | 42 | | | 14½ | 42 | | | 13½ | 40 | | | 12 |
| 5 | 44 | | | 20½ | 43 | | | 17 | 43 | | | 15½ | 43 | | | 14½ | 41½ | | | 13½ | 40 | | | 12½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 19.85 | | | | 16.85 | | | | 15.6 | | | | 14.35 | | | | 13.6 | | | | 12.[illegible] |
| % | | | | 82.3 | | | | 69.5 | | | | 64.3 | | | | 60 | | | | 56.1 | | | | 50.3 |

| | 20 hrs | | | | 40 hrs | | | | 60 hrs | | | | 80 hrs | | | | 102,30 | | | | 150 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 60 Pm 11-23-97 | | | | gam 11-27-97 | | | | 48 Pm 11-30-97 | | | | 48 Pm 12-2-97 | | | | 132 Pm 12-6-97 | | | | gam 12-11-97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 43 | | | 19 | 41 | | | 16 | 42 | | | 14½ | 41 | | | 13½ | 40 | | | 12½ | 39 | | | 11½ |
| 2 | 44 | | | 19½ | 44 | | | 16 | 43 | | | 15 | 43 | | | 14½ | 42½ | | | 13 | 40 | | | 11½ |
| 3 | 45 | | | 20 | 44 | | | 16½ | | | | | | | | | | | | | | | | |
| 4 | 42½ | | | 18½ | 42½ | | | 16 | 41 | | | 15 | 41 | | | 14 | | | | | | | | |
| 5 | 44 | | | 19 | 42½ | | | 16½ | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 19.25 | | | | 16.25 | | | | 14.8 | | | | 13.91 | | | | 12.87 | | | | 11.[illegible] |
| % | | | | 77.8 | | | | 67.7 | | | | 61.8 | | | | 58 | | | | 53.6 | | | | 4[illegible] |

ORDER No. 282 Box 15

At 24½ Candles. Test Started 9 AM 11-22-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. Minutes. | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 106 | 45 | 8.30 am 1.10.98 | 374.15 | 3 | | 100 | 42 |
| 2 | 106.5 | 45 | 8.45 am 1.8.98 | 369.15 | 2 | | 101 | 42 |
| 3 | 105 | 44 | | | | | 100 | 40 |
| 4 | 105.5 | 44.5 | 10 am 12-20-97 | 212.30 | 1 | | 99 | 40 |
| 5 | 106 | 45 | | | | | 100 | 41 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 105.8 | 44.7 | | | | | 100 | 41 |

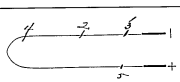


| | Candles per H. P. |
|---|---|
| At 16 Candles. | 291 |
| At 24½ Candles. | 383 |

ORDER No. 288 Box 16

At 24 Candles. Test Started 9 AM. 11-22-97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. Minutes. | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104.5 | 43 | 3.30 pm 12.31.97 | 314.30 | 5 | | 99 | 40 |
| 2 | 105 | 45 | 5.30 pm 12-16-97 | 183.35 | 4 | | 99 | 42 |
| 3 | 104.5 | 45 | 1.45 PM 11-30-97 | 57.45 | 2 | | 99 | 42 |
| 4 | 105 | 44.5 | 9.45 AM 12-6-97 | 98.15 | 3 | | 99 | 41 |
| 5 | 103.5 | 45 | 10.50 AM 11-29-97 | 43.50 | 1 | | 99 | 41 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 104.5 | 44.5 | | | | | 99 | 41.12 |



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 293 |
| At 24 Candles. | 384 |

| | 209 hrs | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 945 am 12/1897 | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 40½ | | | 11¾ | | | | | | | | | | | | | | | | | | | | | |
| 4 | 40 | | | 11 | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 113 | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 47.4 | | | | | | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | | |

P.

| | 209 hrs | | | | 350 hrs | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 945 am 12/1897 | | | | 730 am 1.6.98 | | | | | | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | |
| 1 | 39 | | | 10¾ | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 38½ | | | 10½ | 38 | | | 9½ | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 102 | | | | 95.8 | | | | | | | | | | | | | | | | | |
| Avg. | | | | 41.7 | | | | 41.8 | | | | | | | | | | | | | | | | | |
| % | | | | | | | | | | | | | | | | | | | | | | | | | |

P.

| | 20 hrs 6 Pm 11-23-97 | | | | 40 hrs 9 am 11-27-97 | | | | 60 hrs 4 Pm 11-30-97 | | | | 80 hrs 4 Pm 12-2-97 | | | | 102.30 1 30 Pm 12-6-97 | | | | 150 9 am 12-11- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C. |
| 1 | 42½ | | | 20 | 42½ | | | 16½ | 41 | | | 14½ | 41 | | | 14 | 40 | | | 13 | | | | |
| 2 | 42½ | | | 20 | 42½ | | | 16½ | 41 | | | 15 | | | | | | | | | | | | |
| 3 | 42½ | | | 19½ | 42½ | | | 16½ | 42 | | | 13 | 41 | | | 14½ | 40 | | | 14 | 40 | | | 12 |
| 4 | 43 | | | 20 | 42½ | | | 16 | 42½ | | | 14½ | 42½ | | | 13½ | 41 | | | 14 | 40 | | | 11 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | 19.93 | | | | 16.38 | | | | 14.57 | | | | 14.08 | | | | 13.66 | | | | 11.7 |
| Avg. | | | | 84 | | | | 68.2 | | | | 62 | | | | 58.7 | | | | 56.9 | | | | 49 |
| % | | | | | | | | | | | | | | | | | | | | | | | | |

| 2.85 0.100 L. | 20 hrs 6 Pm 11-23-97 | | | | 40 hrs 9 am 11-27-97 | | | | 60 hrs 4 Pm 11-30-97 | | | | 80 hrs 4 Pm 12-2-97 | | | | 102.30 1 30 Pm 12-6-97 | | | | 150 9 am 12-11- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 41 | | | 18¾ | 40 | | | 18¾ | 40 | | | 14 | 40 | | | 13½ | 40 | | | 12½ | 38 | | | 1 |
| 2 | 42½ | | | 18¾ | 42 | | | 15½ | | | | | | | | | | | | | | | | |
| 3 | 40 | | | 19 | 40 | | | 13¾ | 40 | | | 14½ | 40 | | | 14 | 40 | | | 13½ | 37½ | | | 11 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 18.4 | | | | 15.5 | | | | 14.2 | | | | 13.25 | | | | 12.8 | | | | 1 |
| % | | | | 82 | | | | 68.1 | | | | 62.6 | | | | 60% | | | | 56.6 | | | | 4 |

ORDER No. 284 Box 14

At 24 Candles. Test Started 9 AM 11-22-97 At Candles.

| NO. OF LAMPS. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107 | 43 | 7 45 am 12-7-97 | 1045 | 2 | | 101.5 | 41 |
| 2 | 107 | 43 | 8 am 12-1-97 | 60 hrs | 1 | | 101.5 | 40.5 |
| 3 | 106 | 43 | 7 30 am 1.6.98 | 350 hrs | 4 | | 100.5 | 40 |
| 4 | 105.5 | 44 | 9 15 am 1.5.98 | 340.45 | 3 | | 99.5 | 40.5 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 106.87 | 42.25 | | | | | 100.75 | 40.5 |

1 2 3 4

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 298 |
| At 24 Candles. | 389 |

ORDER No. 285 Box 15

At 22 3/4 Candles. Test Started 9 AM 11-22-97 At 16 Candles.

| NO. OF LAMPS. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 102 | 42 | 3 45 pm 1.5.98 | 347.15 | 2 | | 98 | 40 |
| 2 | 102 | 43 | 9 am 11-30-97 | 53 | 1 | | 97 | 41 |
| 3 | 104 | 42 | | | | | 99 | 40 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 102.66 | 42.33 | | | | | 98 | 40.33 |

1 2

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 302 |
| At 22 3/4 Candles. | 389 |

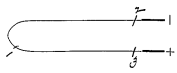
| 6550 L. | 20 hrs 6 PM-11-23-97 | | | | 40 hrs 9 am 11-27-97 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 40 | | | 16 3/4 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16.75 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 74.4 | | | | | | | | | | | | | | | | | | | | |

| | 20 hrs 6 PM 11-23-97 | | | | 40 hrs 9 am 11-27-97 | | | | 60 hrs 4 PM 11-30-97 | | | | 80 hrs 4 PM 12-2-97 | | | | 102.30 12 PM 12-6-97 | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 41 1/2 | | | 18 1/2 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 41 | | | 18 1/2 | 40 1/2 | | | 15 3/4 | 40 | | | 14 1/2 | 40 | | | 13 3/4 | 39 | | | 13 | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18.5 | | | | 15.34 | | | | 14.5 | | | | 13.25 | | | | 13 | | | | |
| % | | | | 76.3 | | | | 64.9 | | | | 59.8 | | | | 54.7 | | | | 53.6 | | | | |

ORDER No. 286 Box 19

At 22 1/2 Candles. Test Started 9 A.M. 11-22-97

| No. of Lamp. | Volts. | Amperes. | Time Which Broken. | Lamp Life. Hours. | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 104 | 42 | 3-30 PM 11-23-97 | 24 hrs. | 3 | | 99 | 40 |
| 2 | 109 | 38 | 4 PM 11-22-97 | 7- | 2 | | 103 | 40 |
| 3 | 109.5 | 38 | 1030 AM 11-22-97 | 1-35 | 1 | | 104 | 35 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 107.5 | 39.33 | | | | | 102 | 38.33 |

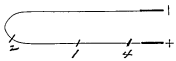


| | Candles per H. P. |
|---|---|
| At 16 Candles. | 306 |
| At 22 1/2 Candles. | 396 |

ORDER No. 287 Box 20

At 24 1/2 Candles. Test Started 9 A.M.

| No. of Lamp. | Volts. | Amperes. | Time Which Broken. | Lamp Life. Hours. | Order of Breaking. | | At 16 Candles. Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 107.5 | 44 | 5100 PM 11-24-97 | 26.10 | 2 | | 102 | 40 |
| 2 | 109 | 43 | 232 PM 11-22-97 | 5-35 | 1 | | 103 | 40 |
| 3 | | | | | | | | |
| 4 | 109 | 43 | 1130 12-8-97 | 119.50 | 3 | | 102 | 40 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.5 | 43.33 | | | | | 102.33 | 40 |



| | Candles per H. P. |
|---|---|
| At 16 Candles. | 291 |
| At 24 1/2 Candles. | 386 |

P.

289 | 1.45 11-26-97 20 hrs

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45 | | | 16½ | | | | | | | | | | | | | | | | | | | | |
| 2 | 42½ | | | 17¾ | | | | | | | | | | | | | | | | | | | | |
| 3 | 44 | | | 16 | | | | | | | | | | | | | | | | | | | | |
| 4 | 44 | | | 15¾ | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.73 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 98.1 | | | | | | | | | | | | | | | | | | | | |

Takes down 45 3/4 hrs
1:15 PM 11/30/97

289 | 1.45 Brown 11-26-97 20 hrs

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 42½ | | | 16 | | | | | | | | | | | | | | | | | | | | |
| 2 | 46 | | | 16 | | | | | | | | | | | | | | | | | | | | |
| 3 | 45 | | | 15½ | | | | | | | | | | | | | | | | | | | | |
| 4 | 44 | | | 16 | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 15.81 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 97.7 | | | | | | | | | | | | | | | | | | | | |

Takes down 45 3/4 hrs
1:15 PM 11/30/97

ORDER No. 288 Aylsworth - Lead glass

At 16¼ Candles. Test Started 415 PM 11-23-97 At Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life, unbroken | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 100 | 45 | | | | | | |
| 2 | 100 | 43 | | | | | | |
| 3 | 101 | 44 | | | | | | |
| 4 | 98.5 | 45 | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99.87 | 44.25 | | | | | | |

—|
—+

| | Candles per H. P. |
|---|---|
| At Candles. | |
| At 16¼ Candles. | 275 |

ORDER No. 289 Aylsworth - Gunnar glass

At 16¼ Candles. Test Started 415 PM 11-23-97 At Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life, unbroken | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | 102 | 43 | | | | | | |
| 2 | 98 | 45 | | | | | | |
| 3 | 98 | 45 | | | | | | |
| 4 | 100 | 44.5 | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 99.5 | 44.37 | | | | | | |

—|
—+

| | Candles per H. P. |
|---|---|
| At Candles. | |
| At 16¼ Candles. | 275 |

290 20 hrs 1230 PM 12-2-97 | 40 hrs 11:30 12-4-97

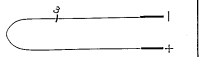
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 48 | | | 22 | 46½ | | | 18 | | | | | | | | | | | | | | | | |
| 2 | 49 | | | 22½ | 47 | | | 18½ | | | | | | | | | | | | | | | | |
| 3 | 48 | | | 22 | 45 | | | 17½ | | | | | | | | | | | | | | | | |
| 4 | 49 | | | 22 | 47 | | | 17¾ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 220½ | | | | 17.87 | | | | | | | | | | | | | | | | |
| % | | | | 81.7 | | | | 66.2 | | | | | | | | | | | | | | | | |

ORDER No. 291 Aylesworth German Gl...

291 20 hrs 1230 PM 12-2-97 | 40 hrs 11:30 AM 12-4-97

| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 49 | | | 21 | 47½ | | | 18 | | | | | | | | | | | | | | | | |
| 2 | 49½ | | | 20½ | 47½ | | | 17½ | | | | | | | | | | | | | | | | |
| 3 | 47½ | | | 20¾ | 46 | | | 17¾ | | | | | | | | | | | | | | | | |
| 4 | 47½ | | | 20 | 45½ | | | 16½ | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 202½ | | | | 17.43 | | | | | | | | | | | | | | | | |
| % | | | | 75 | | | | 63.4 | | | | | | | | | | | | | | | | |

ORDER NO. 290 Aylsworth lead Glass

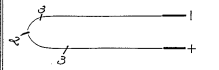



At 27 Candles. Test Started 2.30 PM 11-30-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | 49 | | | | | 100 | 44 |
| 2 | 109 | 49 | | | | | 100 | 44 |
| 3 | 108 | 48.5 | | | | | 100 | 43.5 |
| 4 | 108 | 49 | 8 45 am 1.6.98 | 200.45 | 1 | | 100 | 44 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 108.5 | 48.875 | | | | | 100 | 43.875 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 272 |
| At 27 Candles. | 381 |

ORDER NO. 291 Aylsworth's German Glass




At 27.5 Candles. Test Started 2.30 PM 11-30-97 At 16 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | 109 | 50 | 12 M. 12.30.97 | 2.50.30 | 3 | | 100 | 44 |
| 2 | 109 | 50 | 4 30 PM 12.23.97 | 201.30 | 2 | | 100 | 44 |
| 3 | 111 | 49 | 11 30 am 12.21.97 | 173.30 | 1 | | 101 | 44 |
| 4 | 110 | 49 | | | | | 101 | 44 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | 109.75 | 49.5 | | | | | 100.5 | 44 |

| | Candles per H. P. |
|---|---|
| At 16 Candles. | 270 |
| At 27½ Candles. | 376 |

| | 20 hrs 8 aws 12-16-97 | | | | 40 hrs 9 aws 12-13-97 | | | | 81 hrs 18 hrs 240 hrs 12-23-97 | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 49 | | | 24 | 47 3/4 | | | | 19 | 44 1/2 | | | 15 3/4 | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 50 | | | 24 | 49 | | | | 19 3/4 | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 24 | | | | | 19.37 | | | | 15.75 | | | | | | | | | | | |
| % | | | | 57.3 | | | | | 70.5 | | | | 57.3 | | | | | | | | | | | |

| | 206 3/4 hrs 10 aws 1-10-98 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 40 1/4 | | | 11 1/4 | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 11.25 | | | | | | | | | | | | | | | | | | | | |
| % | | | | 39.2 | | | | | | | | | | | | | | | | | | | | |

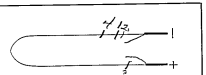
| GOOD L. | 20 | | | | 40 hrs | | | | 81 hrs 10 mins | | | | 124.10 hrs | | | | 155 hrs 45 mins | | | | 177 hrs 10 mins |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 am 12-16-97 | | | | 9 am 12.18.97 | | | | 2 45 pm 12-23-97 | | | | 3 45 pm 12.29.97 | | | | 3 45 pm Friday 5 pm 1.5.98 | | | | |
| NO. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 42½ | | | 18 | 42.75 | | | 15½ | 41¾ | | | 14 | 41½ | | | 13 | 40¾ | | | 12½ | 40¾ | | | 11½ |
| 2 | 42½ | | | 18 | 43.25 | | | 16 | 42 | | | 14 | 42 | | | 13½ | 41 | | | 12½ | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 18 | | | | 15.75 | | | | 14 | | | | 13.25 | | | | 12.42 | | | | 11.7 |
| % | | | | 44.7 | | | | 82.9 | | | | 73.7 | | | | 68.7 | | | | 64.4 | | | | 61.1 |

ORDER NO. 292 Aylsworth 2 Watts

Pianowire on inside posts

At Candles. Test Started 10 am 12, 14, 97 At 27½ Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 930 am 12-15-97 | 10.30 | 1 | | 110 | 50 |
| 2 | | | 1242 pm 12-14-97 | 89.45 | 3 | | 112 | 49 |
| 3 | | | 130 pm 12-15-97 | 14.30 | 2 | | 110 | 50 |
| 4 | | | 11 pm 12-23-97 | 98.15 | 4 | | 111 | 50 |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 110.75 | 49.75 |

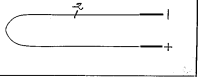


| | Candles per H. P. |
|---|---|
| At 27½ Candles. | 371 |
| At Candles. | |

ORDER NO. 293 Box 15

At Candles. Test Started 10 am 12, 14, 97 At 19 Candles.

| NO. OF LAMP. | VOLTS. | AMPERES. | TIME WHEN BROKEN. | LAMP LIFE. (MINUTES) | ORDER OF BREAKING. | | VOLTS. | AMPERES. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 104 | 42.5 |
| 2 | | | 3 pm 1.5.98 | 165.15 | 1 | | 104 | 42.5 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 104 | 42.5 |



| | Candles per H. P. |
|---|---|
| At 19 Candles. | 321 |
| At Candles. | |

| 1000 L. | 20674 hrs<br>11am 1.10.98 | | |

| | 20 | | | | 40 hrs | | | | 81 hrs 10 mins | | | | 124.15 | | | | 155 hrs 45 mins | | | | 177 hrs 15 mins | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 am 12-16-1897 | | | | 9 am 12-18-97 | | | | 2 40 pm 12-23 97 | | | | 3 45 pm 12-29 97 | | | | 3 45 pm Jan 3 98 | | | | 5 00 pm 1.5.98 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C. |
| 1 | 45½ | | | 13 | 48½ | | | 12½ | 47 | | | 12 | 46 | | | 10½ | 45 | | | 10½ | 45 | | | 10 |
| 2 | 50 | | | 14½ | 51½ | | | 13½ | 50½ | | | 12½ | 49 | | | 10½ | 48½ | | | 10½ | 48½ | | | 10. |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.62 | | | | 13 | | | | 12½ | | | | 10.62 | | | | 10.75 | | | | 10.5 |
| % | | | | 90.8 | | | | 86.7 | | | | 81.7 | | | | 70.8 | | | | 71.7 | | | | 70 |

ORDER No. 294 Box 15

Flashed

At Candles. Test Started 10, a.m. 12.14.97 At 15 Candles.

At 15 Candles. Candles per H. P. 317

At Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 73 | 50 |
| 2 | | | | | | | 68 | 50 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 70.5 | 50 |

ORDER No. 295 Box 3 28 Watts

Flashed

At Candles. Test Started 10, a.m. 12-14-97 At 19 Candles.

At 19 Candles. Candles per H. P. 376

At Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 1.45 p.m. 12-21-97 | 58.15 | 2 | | 68.5 | 56 |
| 2 | | | 3.00 p.m. 12-17-97 | 37 hrs | 1 | | 67.5 | 55 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 68 | 55.5 |

| | 20 hrs | | | | 40 hrs | | | | 65 hrs | | | | 98 hrs | | | | 130 hrs 42 min | | | | 160 3/4 hrs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 L. | 9:32 am 12.20.97 | | | | 9:30 am 12.21.97 | | | | 1:30 pm 12.23.97 | | | | 4:8 pm 12.31.97 | | | | 5:00 pm 1.5.98 | | | | 10 am 1.10.98 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | | | | | | | | | 20½ | 47 | | | 17¾ | | | | | | | | | | | |
| 2 | 48¾ | | | 235 | 47½ | | | | 19½ | 46½ | | | 16½ | 46½ | | 15 | 45½ | | | 14 | 44¾ | | | 13 |
| 3 | 48¾ | | | 23 | 47½ | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 23.12 | | | | | 19.37 | | | | 17.12 | | | 15 | | | | 14 | | | | 13 |
| % | | | | 82.6 | | | | | 71 | | | | 61.2 | | | 53.6 | | | | 50 | | | | 46.4 |

| | 72½ hrs | | | | 82½ hrs | | | | 92½ hrs | | | | 102½ hrs | | | | 122 hrs | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0000 L. | 3:42 pm 1.2.98 | | | | 4:20 pm 1.4.98 | | | | 5:00 pm 1.5.98 | | | | 5 pm 1.6.97 | | | | 10 am 1.10.98 | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 50½ | | | 15 | 51 | | | 15½ | 51 | | | 16 | 50½ | | | 15 | 50½ | | | 15½ | | | | |
| 2 | 54 | | | 17 | 53½ | | | 16½ | 54½ | | | 16½ | 54 | | | 16½ | 53½ | | | 16 | | | | |
| 3 | 49½ | | | 17 | 49½ | | | 17 | 54½ | | | 16½ | 48½ | | | 16 | 48½ | | | 16 | | | | |
| 4 | 54½ | | | 18 | 55 | | | 17½ | 55 | | | 18 | 54½ | | | 17½ | 53½ | | | 16½ | | | | |
| 5 | 53½ | | | 15¾ | 53½ | | | 15½ | 53½ | | | 16 | 53 | | | 15½ | 53 | | | 14½ | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 16.53 | | | | 16.50 | | | | 16.33 | | | | 16.05 | | | | 13.7 | | | | |
| % | | | | 103 | | | | 103 | | | | 102.3 | | | | 100 | | | | 78.1 | | | | |

ORDER NO. 297 Edison Jr.

| | 10 hrs 1230 pm 12.24.97 | | | | 20 hrs 130 pm 12.27.97 | | | | 30½ hrs 1230 pm 12.29.97 | | | | 41 hrs 45 min 3 30 pm 12.29.97 | | | | 52 hrs 4 pm 12.30.97 | | | | 62½ hrs 4 pm 12.30.97 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 50 | | | 14½ | 49½ | | | 13½ | 50 | | | 14½ | 50 | | | 14½ | 50½ | | | 14½ | 50½ | | | 15½ |
| 2 | 53½ | | | 17 | 53½ | | | 17 | 53½ | | | 18 | 53½ | | | 17 | 54 | | | 17 | 55 | | | 16½ |
| 3 | 49 | | | 16 | 49 | | | 16½ | 49½ | | | 17 | 49½ | | | 16½ | 49½ | | | 16 | 49½ | | | 16½ |
| 4 | 54½ | | | 17½ | 54½ | | | 17½ | 54½ | | | 17½ | 54½ | | | 17½ | 54½ | | | 17½ | 55 | | | 17½ |
| 5 | 52½ | | | 14½ | 52½ | | | 14 | 52½ | | | 13 | 53 | | | 13 | 53 | | | 14½ | 53 | | | 15 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 15½ | | | | 15.7 | | | | 16.35 | | | | 16.1 | | | | 15.85 | | | | 16.2 |
| % | | | | 98.8 | | | | 98.1 | | | | 102 | | | | 100 | | | | 99.1 | | | | 101 |

ORDER NO. 296 — 2 Watts

(Aylsworth) Sheet steel

At Candles. Test Started 4.30 PM 12-17-97 At 28 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | 12.40 PM 12.20.97 | 1210 | 1 | | 112 | 50 |
| 2 | | | 2 PM 12.22.97 | 75 hr | 2 | | 112 | 50 3/4 |
| 3 | | | | | | | 111.5 | 50 3/4 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 111.83 | 50.5 |

7 — 1 — +

Candles per H. P.

At 28 Candles. 370

At Candles.

ORDER NO. 297 — Edison Jr.

At Candles. Test Started 2.30 PM 12.23.97 At 16 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when broken. | Lamp life. (minutes) | Order of breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 113 | 50.5 |
| 2 | | | | | | | 112.5 | 52 |
| 3 | | | | | | | 112 | 49 |
| 4 | | | | | | | 113 | 53.5 |
| 5 | | | | | | | 112 | 52.5 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 112.6 | 51.5 |

— 1 — +

Candles per H. P.

At 16 Candles. 206.

At Candles.

| | 72 hrs | | | | 82 hrs | | | | 92 hrs | | | | 112½ hrs | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 r. | 4:30 Pm 1.4.98 | | | | 5:00 Pm 1.5.98 | | | | 5 Pm 1.6.98 | | | | 10 am 1.10.98 | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 57½ | | | 21 | 56½ | | | 21 | 57 | | | 20½ | 56½ | | | 20 | | | | | | | | |
| 2 | 56½ | | | 20½ | 56 | | | 20 | 56½ | | | 20 | 55½ | | | 18½ | | | | | | | | |
| 3 | 57½ | | | 21½ | 57 | | | 21 | 57 | | | 20½ | 56½ | | | 20 | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 21.6 | | | | 20.6 | | | | 20.25 | | | | 19.41 | | | | | | | | |
| % | | | | 106 | | | | 103 | | | | 101 | | | | 97.1 | | | | | | | | |

| | 72 hrs | | | | 82 hrs | | | | 101½ hrs | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6000 r. | 5:00 Pm 1.5.98 | | | | 5 Pm 1.6.98 | | | | 10 am 1.10.98 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 50½ | | | 14½ | 50½ | | | 12½ | 48½ | | | 10½ | | | | | | | | | | | | |
| 2 | 52 | | | 13½ | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 13.5 | | | | 12.25 | | | | 10.5 | | | | | | | | | | | | |
| % | | | | 56.3 | | | | 51 | | | | 43.8 | | | | | | | | | | | | |

| | 10 hrs | | | | 20 hrs | | | | 31 hrs 15 min | | | | 41 hrs 30 min | | | | 52 hrs | | | | 62 hrs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 000 L. | 2 PM 12,27,97 | | | | 12 AM 12,28,97 | | | | 3 15 PM 12,28,97 | | | | 4 PM 12,30,97 | | | | 4 PM 12,31,97 | | | | 3 45 PM 1,3,97 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 56½ | | | 20 | 57 | | | 21½ | 57 | | | 21 | 57 | | | 21 | 57 | | | 21½ | 57 | | | 21 |
| 2 | 55½ | | | 19 | 56 | | | 20½ | 56½ | | | 20½ | 56½ | | | 20½ | 57 | | | 20½ | 56½ | | | 21 |
| 3 | 58 | | | 22½ | 58½ | | | 22½ | 58½ | | | 22½ | 58 | | | 21½ | 58 | | | 22 | 57½ | | | 22 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 20½ | | | | 21.41 | | | | 21.99 | | | | 21 | | | | 21.33 | | | | 21 |
| % | | | | 103 | | | | 107 | | | | 107 | | | | 103 | | | | 107 | | | | 10 |

| | 10 hrs | | | | 21 hrs 15 min | | | | 31½ hrs | | | | 42 hrs | | | | 52 hrs | | | | 62 hrs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 PM 12,28,97 | | | | 3 15 PM 12,29,97 | | | | 4 PM 12,30,97 | | | | 4 PM 12,31,97 | | | | 3 45 PM 1,3,98 | | | | 4 30 PM 1,4,98 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 52½ | | | 23 | 53 | | | 18 | 53½ | | | 16½ | 53½ | | | 15½ | 51 | | | 14 | 51 | | | 13 |
| 2 | 57½ | | | 22½ | 56 | | | 18 | 54½ | | | 16 | 54 | | | 16 | 53 | | | 10 | 52½ | | | 14 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 22.87 | | | | 18 | | | | 16.25 | | | | 15.75 | | | | 14.25 | | | | 14.7 |
| % | | | | 95.3 | | | | 75 | | | | 67.7 | | | | 65.6 | | | | 60.4 | | | | 57 |

ORDER No. 298 at 3,36 Watts

Edison Jr

At Candles. Test Started 2 PM 12 24 97 At 20 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 120 | 55.5 |
| 2 | | | | | | | 120 | 55 |
| 3 | | | | | | | 120 | 57 |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 120 | 55.83 |

Candles per H. P.

At 20 Candles. 222

At Candles.

ORDER No. 299 Aylsworth

Hasked in Oil

At Candles. Test Started 2,30 PM 12 29 97 At 24 Candles.

| No. of Lamp. | Volts. | Amperes. | Time when Broken. | Lamp Life (Minutes) | Order of Breaking. | | Volts. | Amperes. |
|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | 82 | 58 3/4 |
| 2 | | | 445 from 16.98 | 81.45 | 1 | | 83.5 | 58 1/4 |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 82 3/4 | 58.5 |

Candles per H. P.

At 24 Candles. 369

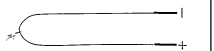
At Candles.

| | 13 hrs 15 min | | | | 30½ hrs | | | | 40½ hrs | | | | 50½ hrs | | | | 60½ hrs | | | | 80 hrs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9.30 am 12.31.97 | | | | 3.45 pm 1.3.98 | | | | 4 pm 1.4.98 | | | | 3.30 pm 1.5.98 | | | | 5 pm 1.6.98 | | | | 10 am 1.10.98 | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 47 | | | 19 | 43½ | | | 16 | 44½ | | | 15 | 43½ | | | 13½ | 43½ | | | 12½ | 42½ | | | 12½ |
| 2 | 51½ | | | 20 | 48½ | | | 16½ | 48½ | | | 15 | 48 | | | 14½ | 47½ | | | 13½ | 46½ | | | 13 |
| 3 | 48½ | | | 19½ | 46½ | | | 16½ | 46 | | | 15 | 45 | | | 14 | 44½ | | | 13½ | 44 | | | 12½ |
| 4 | 46½ | | | 19½ | 44½ | | | 16½ | 43½ | | | 14½ | | | | 1 | | | | | | | | |
| 5 | 47 | | | 18½ | 44½ | | | 15½ | 44½ | | | 14 | 43 | | | 12½ | 43 | | | 12 | 42 | | | 11½ |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avg. | | | | 19.3 | | | | 16.2 | | | | 14.7 | | | | 13.5 | | | | 12.83 | | | | 12.27 |
| % | | | | 87.7 | | | | 73.6 | | | | 66.8 | | | | 61.4 | | | | 58.8 | | | | 56 |

ORDER No. 300 Box #2

Flashed in oil

| At Candles. | | | Test Started | | | | At 22 Candles. | |
|---|---|---|---|---|---|---|---|---|
| NO. OF LAMP. | VOLTS. | AMPERES. | | TIME WHEN BROKEN. | LAMP LIFE (LAMP HRS) | ORDER OF BREAKING. | VOLTS. | AMPERES. |
| 1 | | | | | | | 89.5 | 50 |
| 2 | | | | | | | 85 | 53.5 |
| 3 | | | | | | | 88 | 50 3/4 |
| 4 | | | 730 am 1.5.98 | 41 hrs | 1 | | 89 | 49 |
| 5 | | | | | | | 89 | 49 3/4 |
| 6 | | | | | | | | |
| 7 | | | | | | | | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| Avg. | | | | | | | 88.2 | 50.6 |




| | Candles per H. P. |
|---|---|
| At 22 Candles. | 367 |
| At Candles. | |

[ITEM FOUND IN BOOK]

# ASSOCIATION OF EDISON ILLUMINATING COMPANIES.

OFFICERS, 1897-98.

PRESIDENT, SAMUEL INSULL, CHICAGO, ILL.
VICE-PRESIDENT, R. R. BOWKER, NEW YORK, N. Y.
TREASURER, W. S. BARSTOW, BROOKLYN, N. Y.
SECRETARY, WILSON S. HOWELL, NEWARK, N. J.

LAMP TESTING BUREAU,
WILSON S. HOWELL,
P. O. BOX NO. 114,
NEWARK, N. J.

EXECUTIVE COMMITTEE, 1897-98.

SAMUEL INSULL, CHAIRMAN, CHICAGO EDISON CO., CHICAGO, ILL.
ALEX. DOW, DETROIT, MICH.
G. R. STETSON, NEW BEDFORD, MASS.
J. W. LIEB, JR., NEW YORK, N. Y.
SAMUEL SCOVILL, CLEVELAND, O.
O. L. EDGAR, BOSTON, MASS.
R. R. BOWKER, (EX-OFFICIO), NEW YORK, N.Y.
W. S. BARSTOW, " BROOKLYN, N. Y.
WILSON S. HOWELL, " NEWARK, N. J.

February 4, 1898.

Mr. Thos. A. Edison,

Edison, Sussex Co., N. J.

My dear Sir:--

I have just concluded a test upon ten regular Edison lamps of 100 v.-3.1 w. p. c.-burned at 2 w. p. c. initial; of which test, I enclose you a summary in the shape of a blue print, imagining that this is all the information that you desire.

The lamps were quite uniform in performance throughout the test, so that it is not of much interest to have the indivual curves, or the readings, of each lamp throughout test. The blue print shows the average of the curves made by the ten lamps to the point where 90% of the lamps had broken. The curve which branches from this average curve at 50 hours is the curve made by the lamp #6 from the 50 hours point where lamp #5 broke. The average curve included the performance of this lamp #6 with the others.

I shall be glad to give you any additional information which you may ask for concerning these tests. I shall keep on record the indivual performance of each lamp. The lamps were burned only during the working hours of the Bureau, while the

[ITEM FOUND IN BOOK]



Mr. Thos. A. Edison. Feb. 4, 1898.

regulation was held strictly constant. During the night hours, when the regulation is in the hands of the engineer of the Power House, these ten lamps were off test. Readings were made every two hours the first day, and every ten hours thereafter. These readings are on record, and show candle-power, amperes, watts, and watts per candle of each lamp. Candle-power is held constant by Mr. Deshler's standard, and read carefully to tenths of candles. The volts are constantly kept checked by Laboratory standards, furnished by the Weston Instrument Co. The current is read from Weston Ammeters kept in check by Laboratory standards made by Weston.

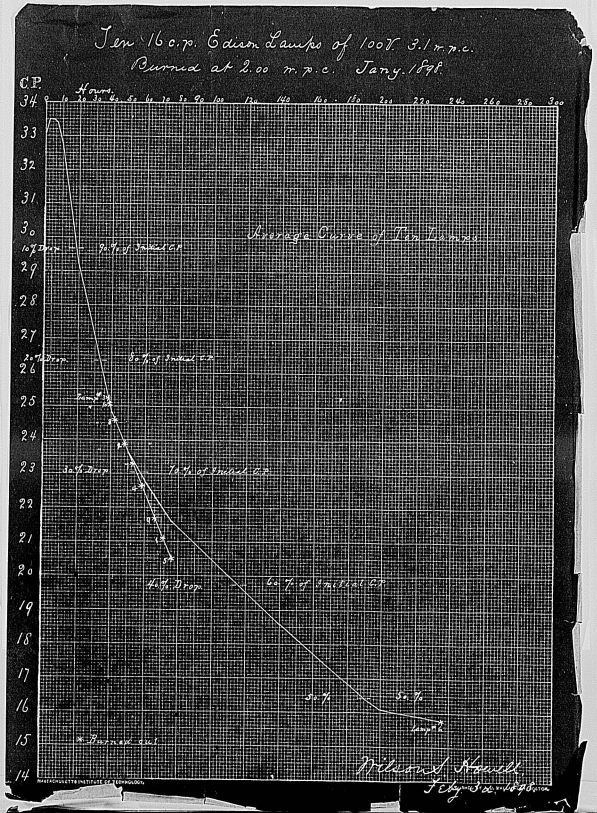
I shall consider it a pleasure to make any such additional tests and reports as you may, from time to time, desire.

Yours very truly,

Wilson S. Howell.

[ITEM FOUND IN BOOK]

[ENCLOSURE]



[ITEM FOUND IN BOOK]

5245
16
52666
52445
3257 | 5 7 7 5 ( 26.70
5302
22128
19506
2622
260008
2120

5227
16
52562
5227
3251 | 5 6 8 3 2 ( 26.71 26 3/4
6502
21812
19506
23060
22757
3030

53.74
27.10
6.25

[ITEM FOUND IN BOOK]

(A) G

3 (no 205-filo) waked Regular way then flash until you get filiments Cherry then o-n C off & put up at 2 watts —

H

2 Lamps (205-filo) dried clamps - worked in regular way and when ready to seal off - put on heat ~~[illegible]~~ and let run for ~~[illegible]~~ 1/2 hour then seal off —

set up at 2 watts,

[ITEM FOUND IN BOOK]

I 8 C.P. J 2 volts

~~Lf~~ Lamps (205 filament)
work in regular way,
and when ready to seal
put Tin Case around +
when all the heat you
can without softening
glass for 1/2 hour
then work Lamp in
regular way on high
Current ~~and~~ for 2 or 3
seconds to get air out
OVER

Daily K

Add 2 mrs lamps
(No 205 filament) +
when finished + ready
seal off let X ray
from a bulb 3 or 4
inches away from it
turn by a battery
phone or Lamp for
10 minutes then seal
while X Lamp is burning

[ITEM FOUND IN BOOK]

of Carbon which it
might have absorbed
while being heated
~~[illegible]~~
Then put heat on &
run for 10 minutes &
seal off —
put 2 up at 2 watts
& 2 at ~~[illegible]~~ sep.

[ITEM FOUND IN BOOK]

Lamp Factory 11-22 1 P.M.

| C.P. | A | |
|---|---|---|
| 14.5 | 40 | |
| 13.25 | 39.5 | 57.5 o/o |
| 14.75 | 40 | |
| .5 | 42.5 | |
| 57.5 | | |

4 | 57.5
25 | 14.37 | 4 | 574
12.5
187
175
120
100

To 3/4 hours

1.
.5
6
12.5
.71.75
84.25

12.
71.75
83.75

~~Second Reading~~

81.75
1
5
6
12

81.75
11
72.75

Eight Reading

[ITEM FOUND IN BOOK]

4:30 P.M. 11-19-97 Lamp Test

| | A | C.P. | |
|---|---|---|---|
| 1 | 40 | 15.5 | |
| 2 | 39 | 14.25 | 61.2 o/o |
| 3 | 40 | 15.5 | |
| 5 | 45 | 16 | |

71 3/4 4)61.25 / 15 3/12

4)61.25 / 15 3/12 = 61.2

15 / 61 / 25 / 62

Stilupatron Lamp Testing

| | A. | C.P. | 11-15-97 |
|---|---|---|---|
| 1 | 40 | 16 3/12 | |
| 2 | 38.5 | 14 1/2 | 64.2 o/o |
| 3 | 39.5 | 16 3/4 | |
| 5 | 42 | 16 1/4 | |
| | | 16.06 | |

Little Reading 5:30 P.M. 61.3%

[ITEM FOUND IN BOOK]

Set up at 2.5 Lamp Factory

| | A | C.P. | |
|---|---|---|---|
| 1 | | 17 | |
| 2 | .40 | 14.75 | |
| 3 | .40 | 17 | 65.2 o/o |
| 5 | .40.5 | 16.5 | |
| | 43 | 16.312 | 51½ hours |

Sixth Reading

Bamboo 45 C.P.

| | A | C.P. | |
|---|---|---|---|
| 2 | .92 | 26 | 57.8 o/o |
| ~~5 Pm~~ | Set up ~~5 30 pm~~ | 26 | |

45/26000 (57.8
225
350
315
350
315
35

6¼
4½
47½

4/65.30
25 / 16.312 (65.2
15.0
1.31
1.25
60
50

| | | |
|---|---|---|
| 7.5 | 7.5 | 7.5 |
| 4.0 | 2.5 | 9.2 |

[ITEM FOUND IN BOOK]

Lamp Testing

| | | | |
|---|---|---|---|
| 1 | A | C.D. | 2 |
| 2 | .40 | 18.5 | |
| 3 | .40 | 16.5 | |
| 5 | .48 | | 70.5% |
| | | 17.5 | |
| 7 | | 17.62 | |
| | | 45 | |
| 2 | A | C.D. | 67.9% |
| | 94 | 31 | |
| | | 31 | |

41½ Hours

[ITEM FOUND IN BOOK]

Jump Reading

| | A | D.P. | |
|---|---|---|---|
| 1 | 39 | 14.5 | |
| 2 | 39 | 12.25 | 5-4.5 |
| 3 | 39.5 | 13.5 | |
| 5 | 42.5 | 14.25 | |
| Down | 12.15 pm | 12.625 | |
| Up | 1.15 " | 93 Hours | |

Finish Reading

| | | |
|---|---|---|
| 153.0 | | |
| 153 / 13.25 00 / 53 | | 5-4.5 |
| 12.5 | | |
| 75 | | 15-450 |
| 75 | | 25 / 1.625 |
| | | 125 |
| 15320 | | 112 |
| 1523 | | 100 |
| | | 123 |
| | | 125 |

[ITEM FOUND IN BOOK]

Lamp Lap

| A | 1.10 |
|---|---|
| 39 | 14.25 |
| 36.75 | 12 |
| 40. | 13.5 |
| 42.75 | 13.75 |

53.5 o/o

4 | 53.500

.25 | 13.375

125

77

75

1.23

53.5

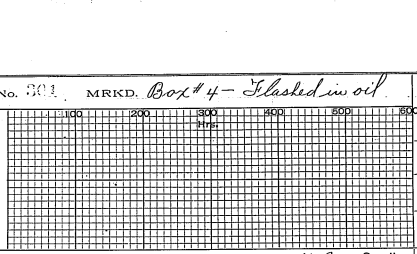
943/4 hours

**Lamp Test Notebook #3, E-1735, 1897-1898**

This notebook covers the period December 1897-January 1898. It is the third of four books used by an unidentified experimenter to record lamp tests, nos. 1-302. This book contains tests, nos. 301-302. Each test lists the amperes, volts, and candlepower used. The front cover is marked "Orders." The book contains 200 numbered pages of skeleton tables, but only the first two pages were used.

| | 13 hrs 15 min | | | | 30½ hrs | | | | 40½ hrs | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9.30 am 12.21.97 | | | | 3.45 pm 1.3.98 | | | | 4.30 pm 1.4.98 | | | | | | | | | | | | | | | |
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 50 | | | 19 | | | | | | | | | | | | | | | | | | | | |
| 2 | 47½ | | | 18 | 45 | | | 14½ | 44½ | | | 13½ | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Avc. | | | | 18.5 | | | | 14.0 | | | | 13.25 | | | | | | | | | | | | |
| % | | | | 84 | | | | 63.9 | | | | 60.2 | | | | | | | | | | | | |

ORDER No. 304 MRKD. Box #4 – Flashed in oil




| C. P. | W. per C. |
|---|---|
| | |
| | |

At Candles—Test Started At 32 Candles

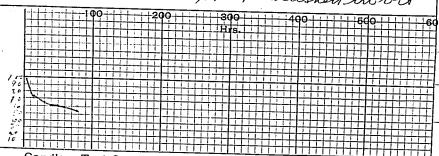
| No. | VOLTS | AMPS. | BROKE AT | LIFE | Order of Brkg. | Cold Res. | VOLTS | AMPS. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 5:45 pm 12.31.97 | 21.30 | 1 | | 84 | 53 | |
| 2 | | | 11:30 am 1.5.98 | 45 hrs | 2 | | 89 | 51 7/8 | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | | | | | | | 86.5 | 52.14 | Candles per Watt .363 |

| 6660 L. | 13 hrs 15 Min. 9.30 am 12.31.97 | | | | 30½ hrs 3.45 pm 1.3.97 | | | | 40½ hrs 4.30 pm 1.4.98 | | | | 50½ hrs 5.00 pm 1.5.98 | | | | 60½ hrs 5.15 pm 1.6.98 | | | | 80 hrs 10 am 1.10.98 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. | A | R | V | C.P. |
| 1 | 40 | | | 16 | 39½ | | | 15 | 39¼ | | | 14¼ | 38½ | | | 14 | 39 | | | 13½ | 38 | | | 12½ |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| Ave. | | | | 16 | | | | 15 | | | | 14.25 | | | | 14 | | | | 13.25 | | | | 12.5 |
| % | | | | 72.7 | | | | 68.2 | | | | 64.8 | | | | 63.6 | | | | 60.2 | | | | 56.8 |

C.

6

ORDER No. 302 MRKD. Box #14 Flashed in oil




| C. P. | W. per C. |
|---|---|
| | |
| | |

At Candles—Test Started At 22 Candles

| No. | VOLTS | AMPS. | BROKE AT | LIFE | Order of Brkg. | Cold Res. | VOLTS | AMPS. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | |
| 2 | | | | | | | 101 | 43¼ | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| Avg. | | | | | | | 101 | .25 | Candles Box #14 376 |

2

**Lamp Test Notebook #4, E-1735, 1896-1898**

This notebook covers the periods December 1896-March 1897 and November 1897-January 1898. It is the fourth of four books used by an unidentified experimenter to record lamp tests, nos. 1-302. This book contains a log providing additional information on tests, nos. 38, 107, 118, and 124-302. The log lists running totals for the life of each lamp. The front cover is marked "Records from Dec 8 '96." The book contains 200 numbered pages.

Blank pages not filmed: 1, 48-200.

| Order | Marked | See previous page Brd. Foot | Dec. 8. 1896 Tuesday Time On | Off | Total hrs | Dec. 9. '96 Wednesday Time On | Off | Total hrs. | Dec. 10. 96 Time On | Off | Total hrs. | (Thursday) | Dec. 11. 1896 (Friday) Time On | Off | Total hours | Dec. 12. '96 (Saturday) Time On | Off | Total hrs. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43 B | 3647.50 | 7.30am | 10.30pm | 3060.50 | 7am | 10pm | 3070.10 | 7am | 10.30pm | 3083.40 | | 7am | 10.30pm | 3097.10 | 7am | 12x | 4002.10 | 2 |
| 107 | 167½ B | 604.15 | " | " | 617.15 | " | " | 626.35 | " | " | 640.05 | | " | " | 653.35 | " | " | 658.35 | 2 |
| 118 | 182 T | 604.15 | " | " | 617.15 | " | " | 626.35 | " | " | 640.05 | | " | " | 653.35 | " | " | 658.35 | 1 |
| 124 | 199 | 241.45 | " | " | 254.45 | " | " | 264.05 | " | 11.35am | 268.40 | | — | — | — | — | — | — | — |
| 125 | 205 | 241.45 | " | " | 254.45 | " | " | 264.05 | " | 10.30pm | 277.35 | | 7am | 10.30pm | 291.05 | " | " | 296.05 | 3 |
| 126 | 206 | 241.45 | " | " | 254.45 | " | " | 264.05 | " | " | 277.35 | | " | " | 291.05 | " | " | 296.05 | 2 |
| 127 | 207 | 241.45 | " | × | 254.45 | " | " | 264.05 | " | × | 277.35 | | " | " | 291.05 | " | " | 296.05 | 1 |
| 128 | 205 B | 195— | " | " | 208.— | " | " | 217.20 | " | " | 230.50 | | " | " | 244.20 | " | " | 249.20 | 4 |
| 129 | 205 B | 195— | " | " | 208.— | " | " | 217.20 | " | " | 230.50 | | " | " | 244.20 | " | " | 249.20 | 4 |
| 130 | 205 C | 195— | " | " | 208.— | " | " | 217.20 | " | × | 230.50 | | " | " | 244.20 | " | " | 249.20 | 4 |
| 131 | 205 D | 195— | " | " | 208.— | " | " | 217.20 | " | " | 230.50 | | " | " | 244.20 | " | " | 249.20 | 5 |
| 132 | 205 E | 184.05 | " | " | 197.05 | " | " | 206.25 | " | × | 219.55 | | " | " | 233.25 | " | " | 238.25 | 2 |
| 133 | 205 F | 184.05 | " | " | 197.05 | " | " | 206.25 | " | × | 219.55 | | " | × | 233.25 | " | " | 238.25 | 1 |
| 135 | 1 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | " | 48.— | " | " | 53.— | 2 |
| 136 | 3 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | " | 48.— | " | " | 53.— | 1 |
| 137 | 4 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | × | 48.— | " | " | 53.— | 1 |
| 138 | 5 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | " | 48.— | " | " | 53.— | 2 |
| 139 | 6 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | " | 48.— | " | " | 53.— | 2 |
| 140 | 7 | 2.— | " | × | 15.— | " | " | 23.30 | " | " | 37.— | 2pm 3.50 | × | × | 42.20 | — | — | — | |
| 141 | 8 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | 10.30pm | | | 48.— | " | " | 53.— | 2 |
| 142 | 10 | 2.— | " | 1.30pm | 7.20 | — | — | — | — | — | — | | | | 48.— | " | " | 53.— | |
| 143 | 11 | 2.— | " | 10.30pm | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 2 |
| 144 | 12 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 2 |
| 145 | 13 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 1 |
| 146 | 14 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 1 |
| 147 | 15 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | × | 48.— | " | × | 53.— | 1 |
| 148 | 16 | 2.— | " | × | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 1 |
| 149 | 17 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 2 |
| 150 | 18 | 2.— | " | × | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 1 |
| 151 | 19 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 2 |
| 152 | 20 | 2.— | " | × | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 1 |
| 153 | 21 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | | | 48.— | " | " | 53.— | 2 |
| 154 | 23 | 2.— | " | " | 15 | " | " | 23.30 | " | " | 37.— | | 12.40pm | | 47.40 | — | — | — | |
| 155 | 24 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | 10.30pm | | 48.— | " | " | 53.— | 1 |
| 156 | 25 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | " | 48.— | " | " | 53.— | 1 |
| 157 | 26 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | | " | " | 48.— | " | " | 53.— | |

4 hours 30 mins: deducted from remainder & on Friday

3 hours 240 mins: deducted

2½ hrs deducted - on Friday 1pm to 3.30pm

| Order | Marked | See previous book - Brought forward | Dec. 8. 1896 cont'd Time On | Off | Total hrs | Dec. 9. 1896 cont'd Time On | Off | Total hrs: | Dec. 10. 96 cont'd Time On | Off | Total hrs: | Dec. 11. 96 (Friday) cont'd Time On | Off | Total hrs: | Dec. 12. 96 (Saturday) cont'd Time On | Off | Total hrs: | 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 158 | 27 | 2.— | 7 a.m. | 10.30 p.m. | 15.— | 7 a.m. | 10 p.m. | 23.30 | 7 a.m. | 10.30 p.m. | 37.— | 7 a.m. | 10.30 p.m. | 48.— | 7 a.m. | 12 n. | 53.— | 1 |
| 159 | 28 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 160 | 29 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 161 | 30 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 162 | 31 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 163 | 32 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 165 | 34 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 166 | 35 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 167 | 36 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 168 | 37 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 169 | 38 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 170 | 40 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 171 | 41 | 2.— | " | 9.50 p.m. | 4.20 | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | — |
| 172 | 42 | 2.— | " | " | 15.— | " | 7.30 p.m. | 20.40 | — | — | — | — | — | — | — | — | — | — |
| 173 | 43 | 2.— | " | " | 15.— | " | 10 p.m. | 23.30 | " | " | 37.— | 7 a.m. | " | 48.— | " | " | 53.— | 1 |
| 174 | 44 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 175 | 45 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | 6.20 p.m. | 45.50 | — | — | — | — |
| 176 | 46 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | 10.30 p.m. | 48.— | " | " | 53.— | 1 |
| 177 | 47 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 2 |
| 178 | 48 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 179 | 49 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |
| 180 | 50 | 2.— | " | " | 15.— | " | " | 23.30 | " | " | 37.— | " | " | 48.— | " | " | 53.— | 1 |

Dec. 8. 1896 cont'd: 4 hrs. 30 mins. deducted

Dec. 11. 96 (Friday) cont'd: 2½ hrs. deducted - Dec. 8 from 1.23.30 p.m.

88

| Order | Marked | Monday Dec. 14. 96 Time on | Time off | Total hours | Tuesday. Dec. 15. 96 Time on | Time off | Total hours | Wednesday 12.16.96 Time on | Time off | Total hours | Thurs: 12.17.96 Time on | Time off | Total hours | Friday 12.18.96 Time on | Time off | Total hours | Saturday 12.19.96 Time on | Time off | Total hours | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 7am | 10.25 | 4016.10 | 7am | 11pm | 4030.10 | 7am | 11pm | 4044.10 | 7am | 11pm | 4057.40 | 7am | 11pm | 4071.10 | 7.15 am | 12.15 pm | 4076.10 | ✓ |
| 107 | 167½B | " | " | 672.35 | " | " | 686.35 | " | " | 700.35 | " | " | 714.05 | " | " | 727.35 | " | " | 732.35 | ✓ |
| 118 | 182T | " | 5.45pm | 668.15 | — | — | — | " | " | — | " | " | — | " | " | — | | | — | ✓ |
| 125 | 205 | " | 10.25 | 310.05 | " | " | 324.05 | " | " | 338.05 | " | " | 351.35 | " | 11pm | 365.05 | " | " | 370.05 | 3 |
| 126 | 206 | " | " | 310.05 | " | " | 324.05 | " | " | 338.05 | " | " | 351.35 | " | " | 365.05 | " | " | 370.05 | 1 |
| 127 | 207 | " | " | 310.05 | " | 3.15pm | 317.20 | — | — | — | | — | — | — | — | | | | | |
| 128 | 205A | " | " | 263.20 | " | 11pm | 277.20 | 7am | | 291.20 | " | " | 304.50 | " | 11pm | 318.20 | " | " | 323.20 | 4 |
| 129 | 205B | " | " | 263.20 | " | " | 277.20 | " | " | 291.20 | " | " | 304.50 | " | " | 318.20 | " | " | 323.20 | 3 |
| 130 | 205C | " | " | 263.20 | " | " | 277.20 | " | " | 291.20 | " | " | 304.50 | " | " | 318.20 | " | " | 323.20 | 3 |
| 131 | 205D | " | " | 263.20 | " | " | 277.20 | " | " | 291.20 | " | " | 304.50 | " | " | 318.20 | " | " | 323.20 | 5 |
| 132 | 205E | " | " | 252.25 | " | " | 266.25 | " | " | 280.25 | " | " | 293.55 | " | " | 307.25 | " | " | 312.25 | 1 |
| 133 | 205F | " | " | 252.25 | " | " | 266.25 | " | " | 280.25 | " | " | 293.55 | " | " | 307.25 | " | " | 312.25 | ✓ |
| 135 | 1 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | — | |
| 136 | 3 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 137 | 4 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 138 | 5 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 139 | 6 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 141 | 8 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 143 | 11 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 144 | 12 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 145 | 13 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 146 | 14 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 147 | 15 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 148 | 16 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | 10.20am | 93.10 | — | — | — | — | — | — | |
| 149 | 17 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | 7.10pm | 100.— | — | do | | | | — | |
| 150 | 18 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 151 | 19 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 152 | 20 | " | " | 62.20 | " | 9.20am | 64.40 | — | — | — | — | — | — | | | — | | | — | |
| 153 | 21 | " | " | 62.20 | " | 11pm | 76.20 | " | " | 90.20 | " | 11pm | 103.50 | 7 to 7am | 11pm | 117.20 | | | 122.20 | 1 |
| 155 | 24 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | — | |
| 156 | 25 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 100.— | — | do | | | | — | |
| 157 | 26 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | 11pm | 103.50 | 7 to 7am | 11pm | 117.20 | | | 122.20 | ✓ |
| 158 | 27 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 103.50 | " | " | 117.20 | | | 122.20 | ✓ |
| 159 | 28 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 103.50 | " | " | 117.20 | | | 122.20 | ✓ |
| 160 | 29 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 103.50 | " | " | 117.20 | | | 122.20 | ✓ |
| 161 | 30 | " | " | 62.20 | " | " | 76.20 | " | " | 90.20 | " | " | 103.50 | " | " | 117.20 | | | 122.20 | ✓ |

14 hours

Running from 20 minutes. Stopped running Thursday 40 minutes

| Order | Moulded | Monday Dec. 14. 96 Cont'd Time on | Off | Total hours | Tuesday Dec. 15. 96 Cont'd Time on | Off | Total hours | Wednes: Dec. 16. 96 Cont'd Time on | Off | Total hours | Thurs: 12.17.96 Cont'd Time on | Off | Total hours | Friday 12.18.96 Cont'd Time on | Off | Total hours | Saturday 12.19.96 Cont'd Time on | Off | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 162 | 31 | 7am | 10.30 pm | 62.20 | 7am | 11pm | 76.10 | 7am | 11pm | 90.20 | 7.30 | 7.10pm | 100.— | — | Taken down | | | | — |
| 163 | 32 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 11pm | 103.50 | 7am | 11pm | 117.20 | 7am | 12pm | 122.20 |
| 165 | 34 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | — |
| 166 | 35 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 11pm | 103.50 | 7am | 11pm | 117.20 | — | — | 122.20 |
| 167 | 36 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | |
| 168 | 37 | " | " | 62.20 | " | 5.15pm | 71.35 | — | — | — | — | — | — | — | | | | | |
| 169 | 38 | " | " | 62.20 | " | 11pm | 76.10 | " | " | 90.20 | " | 11pm | 103.50 | 7am | 11pm | 117.20 | — | — | 122.20 |
| 170 | 40 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | — | 103.50 | " | " | 117.20 | — | — | 122.20 |
| 173 | 43 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | |
| 174 | 44 | " | 10.30 am | 56.10 | — | — | — | — | — | — | — | — | — | | | | | | |
| 176 | 46 | " | 2.30 pm | 59.50 | — | — | — | — | — | — | — | — | — | — | | | | | |
| 177 | 47 | " | 10.25 pm | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | |
| 178 | 48 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | " | 100.— | — | do | | | | |
| 179 | 49 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 11pm | 103.50 | 7am | 11pm | 117.20 | — | — | 122.20 |
| 180 | 50 | " | " | 62.20 | " | " | 76.10 | " | " | 90.20 | " | 7.10pm | 100.— | — | Taken down | | | | |
| 181 | 205 G 2 | — | — | — | — | — | — | — | — | — | 3.15pm | 11pm | 107.00 | 7am | 11pm | 20.30 | — | — | 25.— |
| 182 | 205 H | — | — | — | — | — | — | — | — | — | " | " | 7.00 | " | " | 20.30 | — | — | 25.— |
| 183 | 205 I | — | — | — | — | — | — | — | — | — | " | " | 7.00 | " | " | 20.30 | — | — | 25.— |
| 184 | 205 J | — | — | — | — | — | — | — | — | — | " | 4.10pm | .55 | — | — | — | — | — | — |
| 185 | 205 K | — | — | — | — | — | — | — | — | — | " | 11pm | 107.00 | 7am | 11pm | 20.30 | — | — | 25.— |
| 186 | 205 L | — | — | — | — | — | — | — | — | — | " | — | 107.00 | " | 4.30 | 20.00 | — | — | 24.30 |

These 2 pieces were burning glue 2 days.



49

| Order | Marked | Monday. Dec. 21. '96 Time on | Off | Total hours | Tuesday. Dec. 22. 96. Time on | Off | Total hours | Wednes: Dec. 23. 96. Time on | Off | Total hours | Thurs: Dec. 24. 96 Time on | Off | Total hours | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43 B | 7am | 11pm | 4090.10 | 7am | 11pm | 4104.10 | 7.15am | 11.15pm | 4118.10 | 7am | 6pm | 4128.10 | 2 |
| 107 | 167½ B | - | - | x 746.35 | - | - | 760.35 | - | - | 774.35 | - | - | 784.35 | 1 |
| 125 | 205 | - | - | xx 384.05 | - | - | 398.05 | - | - | 412.05 | - | 11.25 x | 416.30 | |
| 126 | 206 | - | - | 384.05 | - | 11.50pm | 394.— | - | — | — | - | — | — | — |
| 128 | 205 A | - | - | 337.20 | - | 11pm | 351.20 | - | - | 365.20 | - | 6pm | 375.20 | 4 |
| 129 | 205 B | - | - | 337.20 | - | - | 351.20 | - | - | 365.20 | - | - | 375.20 | 3 |
| 130 | 205 C | - | - | xx 337.20 | - | - | 351.20 | - | - | 365.20 | - | - | 375.20 | 1 |
| 131 | 205 D | - | - | 337.20 | - | - | 351.20 | - | - | 365.20 | - | - x | 375.20 | 4 |
| 132 | 205 E | - | - | 326.25 | - | - | 340.25 | - | - | 354.25 | - | - | 364.25 | 1 |
| 133 | 205 F | - | - | 326.25 | - | - | 340.25 | - | - | 354.25 | - | - | 364.25 | 2 |
| 153 | 21 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 157 | 26 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 2 |
| 158 | 27 | - | - | 136.20 | - | - | 150.20 | - | 1.30pm x | 155.35 | — | — | — | |
| 159 | 28 | - | - | 136.20 | - | - | 150.20 | 7.15am | 11.15pm | 164.20 | - | - | 174.20 | 1 |
| 160 | 29 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 161 | 30 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 163 | 32 | - | - | 136.20 | - | x | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 166 | 35 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 169 | 38 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 170 | 40 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 179 | 49 | - | - | 136.20 | - | - | 150.20 | - | - | 164.20 | - | - | 174.20 | 1 |
| 181 | 205 G² | - | - | 39.— | - | - | 51.50 | - | - | 65.50 | - | - | 75.50 | 1 |
| 182 | 205 H | - | - | 39.— | - | - | 51.50 | - | - | 65.50 | - | - | 75.50 | 2 |
| 183 | 205 I | - | - | 39.— | - | - | 51.50 | - | - | 65.50 | - | - | 75.50 | 2 |
| 185 | 205 K | - | - | 39.— | - | - | 51.50 | - | - | 65.50 | - | - | 75.50 | 2 |
| 186 | 205 L | - | - | 38.30 | - | - + | 51.50 | - | - | 65.50 | - | 10.30pm x | 71.20 | 1 |
| 187 | 44 A | 2.30pm | | | | | | | | | 2.15pm | 6pm | 3.45 | 36 |
| 188 | 51 | | | | | | | | | | - | - | 3.45 | 2 |
| 189 | 52 | | | | | | | | | | - | - | 3.45 | 2 |
| 190 | 53 | | | | | | | | | | - | - | 3.45 | 2 |
| 192 | 55 | | | | | | | | | | - | - | 3.45 | 2 |
| 193 | 56 | | | | | | | | | | 3.30pm | | 1.15 | 1 |
| 194 | 57 | | | | | | | | | | - | - | 3.45 | 2 |
| 195 | 58 | | | | | | | | | | - | - | 3.45 | 2 |
| 196 | 59 | | | | | | | | | | - | - | 3.45 | 2 |
| 197 | 60 | | | | | | | | | | - | - | 3.45 | 1 |
| | | | | | | | | | | | - | - x | 3.45 | 1 |

Thursday, Dec.

Thurs. Dec. 24.56



| Order | Marked | | on | BS | Total Lay | | |
|---|---|---|---|---|---|---|---|
| 198 | 61 | | 2.40p | 6pm | 3.45 | | 2 |
| 199 | 62 | | " | " | 3.45 | | 1 |
| 200 | 63 | | " | " | 3.45 | | 2 |
| 201 | 64 | | " | 4.40pm | × 2.25 | | |
| 202 | 65 | | " | 6pm | 3.45 | | 2 |
| 203 | 66 | | " | " | 3.45 | | 2 |
| 204 | 67 | | " | " | × 3.45 | | 1 |
| 205 | 69 | | " | " | 3.45 | | 2 |
| 206 | 71 | | " | " | 3.45 | | 2 |
| 207 | 72 | | " | " | 3.45 | | 2 |
| 208 | 73 | | " | " | 3.45 | | 2 |
| 209 | 74 | | " | " | × 3.45 | | 1 |
| 210 | 75 | | " | " | 3.45 | | 2 |
| 211 | 76 | | " | " | × 3.45 | | 1 |
| 212 | 77 | | " | " | 3.45 | | 2 |
| 213 | 78 | | " | " | × 3.45 | | 1 |
| 214 | 79 | | " | " | 3.45 | | 2 |
| 215 | 80 | | " | " | 3.45 | | 2 |
| 216 | 81 | | " | " | 3.45 | | 2 |
| 217 | 82 | | " | " | 3.45 | | 2 |
| 218 | 83 | | " | " | 3.45 | | 2 |
| 219 | 84 | | " | 4.40pm | × 2.25 | | |
| 220 | 85 | | " | 6pm | 3.45 | | 2 |
| 221 | 86 | | " | " | 3.45 | | 2 |
| ~~222~~ | ~~87~~ | Carbon broken by chemicals after placing on shelf | " | " | ~~3.45~~ | | |
| 223 | 88 | | " | " | × 3.45 | | 1 |
| 224 | 89 | | " | " | × 3.45 | | 1 |
| 225 | 90 | | " | 2.50pm | × 1.40 | | |
| 226 | 91 | | " | 6pm | 3.45 | | 2 |
| 227 | 92 | | " | " | × 3.45 | | 1 |
| 228 | 93 | | " | " | 3.45 | | 2 |
| 229 | 94 | | " | " | 3.45 | | 2 |
| 230 | 95 | | " | " | 3.45 | | 2 |
| * 232 | 97 | | " | " | 3.45 | | 2 |
| 233 | 98 | | " | " | 3.45 | | 2 |
| * 231 | 96 | and | " | 5pm | × 2.45 | | |

| | | Monday. Dec. 28. 96 | | | Tues. Dec. 29 | | | Wednes. Dec. 30 | | | Thurs: Dec. 31. 96 | | | Friday. Jan. 1. 97 | | | Sat. Jan. 2. 97 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | |
| 38 | 43 B | 7.30 am | 11.15 a | 4140.25 | 7 am | 6 pm | 4150.25 | 7. am | 10.30 pm | 4163.55 | 7 am | 10.15 pm | 4175.40 | 8 am | 12.. | 4179.40 | 7.15 am | 12.15 | 4184.40 | 2 |
| 107 | 167½ B | - | - | 796.50 | - | - | 806.50 | - | - | 820.20 | - | 6.45 pm | 828.55 | | | — | - | - | — | |
| ~~125~~ | ~~205~~ | — | — | — | | | | | | — | | | | | | — | - | - | — | |
| 128 | 205 A | - | - | 387.35 | - | - | 397.35 | - | - | 411.05 | - | 10 pm | 422.50 | - | - | 426.50 | - | - | 431.50 | 3 |
| 129 | 205 B | - | - | 387.35 | - | - | 397.35 | - | - | 411.05 | - | - | 422.50 | - | - | 426.50 | - | - | 431.50 | 3 |
| 130 | 205 C | - | - | 387.35 | - | - | 397.35 | - | - | 411.05 | - | - | 422.50 | - | - | 426.50 | - | - | 431.50 | 1 |
| 131 | 205 D | - | - | 387.35 | - | - | 397.35 | - | - | 411.05 | - | - | 422.50 | - | - | 426.50 | - | - | 431.50 | 4 |
| 132 | 205 E | - | - | 376.40 | - | - | 386.40 | - | - | 400.10 | - | - | 411.55 | - | - | 415.55 | - | - | 420.55 | 1 |
| 133 | 205 F | - | - | 376.40 | - | - | 386.40 | - | - | 400.10 | - | - | 411.55 | - | - | 415.55 | - | - | 420.55 | 2 |
| 153 | 21 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 157 | 26 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 159 | 28 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 160 | 29 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 161 | 30 | - | - | 186.35 | - | - | 196.35 | - | 5 pm | 205.35 | | | — | | | — | | | — | |
| 163 | 32 | - | - | 186.35 | - | - | 196.35 | - | 10.30 pm | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 166 | 35 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 169 | 38 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 170 | 40 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 179 | 49 | - | - | 186.35 | - | - | 196.35 | - | - | 210.05 | - | - | 221.50 | - | - | 225.50 | - | - | 230.50 | 1 |
| 181 | 205 G 2 | - | - | 86.15 | - | - | 96.15 | - | - | *109.45 | - | - | 121.30 | - | - | 125.30 | - | 12 m | 130.15 | — |
| 182 | 205 H | - | - | 86.15 | - | - | 96.15 | - | - | 109.45 | - | - | 121.30 | - | - | 125.30 | - | - | 130.30 | 2 |
| 183 | 205 I | - | - | 86.15 | - | - | 96.15 | - | - | 109.45 | - | - | 121.30 | - | - | 125.30 | - | - | 130.30 | 2 |
| 185 | 205 K | - | - | 86.15 | - | - | 96.15 | - | - | 109.45 | - | - | 121.30 | - | - | 125.30 | - | - | 130.30 | 2 |
| 187 | 44 A | - | - | 16.— | 7 am / 2.10 pm | 11 a / 6 pm | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | 1 |
| 188 | 51 | - | - | 16.— | - | - | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | 2 |
| 189 | 52 | - | - | 16.— | - | - | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | 1 |
| 190 | 53 | - | - | 16.— | - | - | 23.50 | - | 4.15 pm | 32.— | | | — | | | — | | | — | |
| 193 | 56 | - | - | 16.— | - 2.45 pm / 11 | | 21.35 | - | 10.30 pm | ~~37.20~~ | | | ~~49.05~~ | | | ~~53.05~~ | | | ~~58.05~~ | |
| 194 | 57 | - | - | 16.— | 7.10 | 6 pm | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | 2 |
| 195 | 58 | - | - | 16.— | - | - | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | 1 |
| 196 | 59 | - | 8.20 am | 4.35 | | | | | | | | | — | | | — | | | — | |
| 197 | 60 | - | 1.15 pm | 16.— | - | 11 a m | 20.00 | | | | | | | | | | | | | |
| 198 | 61 | - | - | 16.— | 2.10 | 6 | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | 2 |
| 199 | 62 | - | - | 16.— | - | | 23.50 | - | - | 37.20 | 4.45 pm | | 43.55 | | | — | | | — | |
| 200 | 63 | - | - | 16.— | - | | 23.50 | - | - | 37.20 | - | 10.15 pm | 49.05 | - | - | 53.05 | - | - | 58.05 | 1 |
| 202 | 65 | - | - | 16.— | - | | 23.50 | - | - | 37.20 | - | - | 49.05 | - | - | 53.05 | - | - | 58.05 | |

| | | Monday Oct. 28. 96 Cont'd | | | Tues: Oct. 29. 96 Cont'd | | | Wednes: Oct. 30. 96 Cont'd | | | Thursday, Oct. 31. 96 Cont'd | | | Friday Jan. 1. 96 Cont'd | | | Sat: Jan. 2. 96 Cont'd | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | Time on | Time off | Total hours | |
| 203 | 66 | 7.30am | 11.30pm | 16.— | 7am 6.45pm | 11 6 | 23.50 | 7am | 10.30pm | 37.20 | 7am | 10.30pm | 49.05 | 8am | 12pm | 53.05 | 7.15am | 4.15 | 58.05 | 2 |
| 204 | 67 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 1 |
| 205 | 69 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 206 | 71 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 207 | 72 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 208 | 73 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 209 | 74 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 1 |
| 210 | 75 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 211 | 76 | " | 8.30pm | × 9.30 | — | — | — | | | | — | — | — | — | — | — | | | — | — |
| 212 | 77 | " | 11.30pm | × 16.— | " | " | 23.50 | " | 11.20am | × 28.10 | — | — | — | — | — | — | — | — | — | — |
| 213 | 78 | " | 10.30am | × 6.30 | — | — | ~~23.50~~ | " | 10.30pm | ~~37.20~~ | — | — | — | — | — | — | — | — | — | — |
| 214 | 79 | " | 11.30pm | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | 5.— | " | 58.05 | 2 |
| 215 | 80 | " | " | × 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 1 |
| 216 | 81 | " | " | × 16.— | " | 11am | * 20.— | Taken down for reading | | | Put up again - C.P. dep. in J. 5.44 or 21.3% | | | | | | | | | |
| 217 | 82 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 218 | 83 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | × | 58.05 | 1 |
| 220 | 85 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 221 | 86 | " | " | × 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 1 |
| 223 | 88 | " | " | 16.— | " | " | 23.50 | " | 5.20pm | × 33.10 | — | — | — | — | — | — | — | — | — | — |
| 224 | 89 | " | 8.20am | × 4.35 | — | — | — | | | | — | — | — | — | — | — | — | — | — | — |
| 226 | 91 | " | 7.30pm | ×× 8.45 | — | | | | | | — | — | — | — | — | — | — | — | — | — |
| 227 | 92 | " | 11.30pm | 16.— × | | 10.30am | 19.45 | | | | — | — | — | — | — | — | — | — | — | — |
| 228 | 93 | " | " | 16.— | " | " | 23.50 | " | 10.30pm | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 229 | 94 | " | 7.30am | ×× 5.15 | — | — | — | | | | — | — | — | — | — | — | — | — | — | — |
| 230 | 95 | " | 11.30pm | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 232 | 97 | " | " | 16.— | " | " | 23.50 | " | " | 37.20 | " | " | 49.05 | " | " | 53.05 | " | " | 58.05 | 2 |
| 233 | 98 | " | 11.30pm | ×× 15.50 | — | — | — | | | | — | — | — | — | — | — | — | — | — | — |
| 234 | 205m | | | | | | | 6.15pm | 10.30pm | 3.15 | " | " | 15.— | " | " | 19.— | " | " | 22.05 | 4 |
| 235 | 205n | | | | | | | " | — | 3.15 | " | " | 15.— | " | " | 19.— | " | " | 22.05 | 2 |



Down 1.15 on 1.6

80

| Order | Marked | Monday Jan. 4.97 Time on | Time off | Total hours | Tuesday Jan. 5.97 Time on | Time off | Total hours | Wednes Jan. 6.97 Time on | Time off | Total hours | Thurs. Jan 7.97 Time on | Time off | Total hours | Friday Jan. 8.97 Time on | Time off | Total hours | Sat. Jan. 9.97 Time on | Time off | Total hours | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43 B | 7am | 6pm | 4194.40 | 7am | 11pm | 4207.55 | 7am | 10.45 | 4221.40 | 7am | 10.30 | 4235.10 | 1pm | 10.30 | 4242.25 | 7am | 12m | 4247.25 | 2 |
| 128 | 205 A | - | - | 441.50 | - | - | 455.05 | - | - | 468.50 | - | - | 482.20 | - | - | 489.35 | - | - | 494.35 | 3 |
| 129 | 205 B | - | - | 441.50 | - | - | 455.05 | - | - | 468.50 | - | - | 482.20 | - | - | 489.35 | - | - | 494.35 | 2 |
| 130 | 205 C | - | - | 441.50 | - | - | 455.05 | - | - | 468.50 | - | - | 482.20 | - | - | 489.35 | - | - | 494.35 | 1 |
| 131 | 205 D | - | - | 441.50 | - | - | 455.05 | - | - | 468.50 | - | - | 482.20 | - | - | 489.35 | - | - | 494.35 | 2 |
| 132 | 205 E | - | - | 430.55 | - | - | 444.10 | - | - | 457.55 | - | - | 471.25 | - | - | 478.40 | - | - | 483.40 | 1 |
| 133 | 205 F | - | - | 430.55 | - | - | 444.10 | - | - | 457.55 | - | - | 471.25 | 2.05pm | - | 472.30 | - | - | — | — |
| 153 | 21 | - | - | 240.50 | - | - | 254.05 | - | - | 267.50 | - | - | 294.50 | 10.45pm | - | 302.05 | - | - | 307.05 | 1 |
| 157 | 26 | - | - | 240.50 | - | - | 254.05 | - | - | 267.50 | - | - | 294.50 | - | - | 302.05 | - | - | 307.05 | 1 |
| 159 | 28 | - | - | 240.50 | - | - | 254.05 | - | 1pm | 259.20 | — | — | — | — | — | — | — | — | — | — |
| 160 | 29 | - | - | 240.50 | - | - | 254.05 | - | 10.45pm | 267.50 | - | - | 294.50 | - | - | 302.05 | - | 11.15am | 306.20 | — |
| 163 | 32 | - | - | 240.50 | - | - | 254.05 | - | - | 267.50 | - | - | 294.50 | - | - | 302.05 | - | 12m | 307.05 | 1 |
| 166 | 35 | - | 8.30am | 231.55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 169 | 38 | - | 6pm | 240.50 | - | - | 254.05 | - | - | 267.50 | - | - | 294.50 | - | - | 302.05 | - | - | 307.05 | 1 |
| 170 | 40 | - | - | 240.50 | - | - | 254.05 | - | - | 267.50 | - | - | 294.50 | - | - | 302.05 | - | - | 307.05 | 1 |
| 179 | 49 | - | - | 240.50 | - | - | 254.05 | - | 10.30pm | 267.10 | — | — | — | — | — | — | — | — | — | — |
| 182 | 205 H | - | - | 140.30 | - | - | 153.45 | - | 10.45pm | 167.30 | - | - | 181.— | - | - | 188.15 | - | - | 193.15 | 2 |
| 183 | 205 I | - | - | 140.30 | - | - | 153.45 | - | - | 167.30 | - | - | 181.— | - | - | 188.15 | - | - | 193.15 | 2 |
| 185 | 205 K | - | - | 140.30 | - | - | 153.45 | - | - | 167.30 | - | - | 181.— | - | - | 188.15 | - | - | 193.15 | 2 |
| 187 | 44 A | - | 10.30am | 61.55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 188 | 57 | - | 6pm | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 189 | 52 | - | - | 68.05 | - | - | 81.20 | - | 2.30pm | 91.25 | — | — | — | — | — | — | — | — | — | — |
| 194 | 57 | - | - | 68.05 | - | - | 81.20 | - | 10.30pm | 95.05 | - | 11pm | 99.15 | — | — | — | — | — | — | — |
| 195 | 58 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | 10.30pm | 108.35 | - | - | 115.50 | - | - | 120.50 | 1 |
| 198 | 61 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | 11.30am | 120.10 | 1 |
| 200 | 63 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | 12m | 120.50 | 1 |
| 202 | 65 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 1 |
| 203 | 66 | - | - | 68.05 | - | - | 81.20 | - | 7pm | 88.30 | — | — | — | — | — | — | — | — | — | — |
| 204 | 67 | - | - | 68.05 | - | - | 81.20 | - | 10.30pm | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 1 |
| 205 | 69 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 206 | 71 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 207 | 72 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 208 | 73 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 1 |
| 209 | 74 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 210 | 75 | - | - | 68.05 | - | - | 81.20 | - | 10.30am | 86.00 | — | — | — | — | — | — | — | — | — | — |
| 214 | 79 | - | - | 68.05 | - | 8.55am | 69.15 | — | — | — | — | — | — | — | — | — | — | — | — | — |



Carried forward from Jan. 15 [illegible]

| Order | Marked | Monday Jan. 4. 97 Time On | Off | Total hours | Tuesday Jan. 5. 97 cont'd Time On | Off | Total hours | Jan. 6. 97 cont'd Time On | Off | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 215 | 80 | 7am | 6pm | 68.05 | 7 30am | 11pm | 81.20 | 7am | 10 30pm | 95.05 |
| 217 | 82 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 218 | 83 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 220 | 85 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 221 | 86 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 228 | 93 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 230 | 95 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 232 | 97 | - | - | 68.05 | - | - | 81.20 | - | - | 95.05 |
| 234 | 205 ZL | - | - | 32.05 | - | - | 44.20 | - | - | 58.05 |
| 235 | 205 ZL | - | - | 32.05 | - | - | 44.20 | - | - | 58.05 |
| 236 | 99 | — | — | — | — | — | — | 9 30am | - | 11.15 |
| 237 | 100 | — | — | — | — | — | — | - | - | 11.15 |
| 238 | 101 | | | | | | | - | - | 11.15 |
| 239 | 102 | | | | | | | - | - | 11.15 |
| 240 | 104 | | | | | | | - | - | 11.15 |
| 241 | 105 | | | | | | | - | - | 11.15 |
| 242 | 106 | | | | | | | - | - | 11.15 |
| 243 | 107 | | | | | | | - | - | 11.15 |
| 244 | 108 | | | | | | | - | 1 45am | 2.05 |
| 245 | 109 | | | | | | | - | 10 45pm | 11.15 |
| 246 | 110 | | | | | | | - | 5 50am | .20 |
| 247 | 111 | | | | | | | - | 10 45pm | 6.25 |
| 248 | 112 | | | | | | | - | 10 45pm | 11.15 |
| 249 | 113 | | | | | | | - | 10 50am | .40 |
| 250 | 114 | | | | | | | - | 11 20am | 2.00 |
| 251 | 115 | | | | | | | - | 10 45pm | 11.15 |
| 252 | 116 | | | | | | | - | - | 11.15 |
| 253 | 117 | | | | | | | - | 10 20am | .33 |
| 254 | 119 | | | | | | | - | 10 45pm | 11.15 |
| 255 | 120 | | | | | | | - | - | 11.15 |
| 256 | 122 | | | | | | | - | - | 11.15 |
| 257 | 123 | | | | | | | - | - | 11.15 |
| 258 | 124 | | | | | | | - | - | 11.15 |
| | | | | | | | | | | ~~21.65~~ |

| Order | Thurs: Jan. 7. 97 cont'd Time On | Off | Total hours | Friday 1. 8. 97 cont'd Time On | Off | Total hours | Sat: 1. 9. 97 cont'd Time On | Off | Total hours | 21 |
|---|---|---|---|---|---|---|---|---|---|---|
| 215 | 7am | 10 30pm | 108.35 | 7pm | 10 30pm | 115.50 | 7am | 12 | 120.50 | 1 |
| 217 | - | 10 30pm | 103.50 | — | — | — | — | — | — | 2 |
| 218 | - | 10 30pm | 108.35 | - | - | 115.50 | - | - | 120.50 | 1 |
| 220 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 221 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 1 |
| 228 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 230 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 232 | - | - | 108.35 | - | - | 115.50 | - | - | 120.50 | 2 |
| 234 | - | - | 71.35 | - | - | 78.50 | - | - | 83.50 | 3 |
| 235 | - | - | 71.35 | - | - | 78.50 | - | - | 83.50 | 1 |
| 236 | - | - | 24.45 | - | - | 32.— | - | - | 37.— | 2 |
| 237 | - | - | 24.45 | - | 10 30pm | 25.15 | — | — | — | |
| 238 | - | - | 24.45 | - | 10 30pm | 32.— | - | - | 37.— | 1 |
| 239 | - | - | 24.45 | - | 2 25pm | 25.50 | — | — | — | |
| 240 | - | - | 24.45 | - | 10 30pm | 32.— | - | - | 37.— | 2 |
| 241 | - | - | 24.45 | - | - | 32.— | - | - | 37.— | 2 |
| 242 | - | - | 24.45 | - | - | 32.— | - | - | 37.— | 2 |
| 243 | — | — | — | — | — | — | — | — | — | |
| 244 | - | 4 30pm | 19.25 | — | — | — | — | — | — | |
| 245 | — | — | — | — | — | — | — | — | — | |
| 246 | 7am | Exploded | | — | — | — | — | — | — | |
| 247 | - | 10 30pm | 24.45 | - | 10 30pm | 32.— | - | - | 37.— | 2 |
| 248 | | | | | | | | | | |
| 249 | — | — | — | — | — | — | — | — | — | |
| 250 | — | — | — | — | — | — | — | — | — | |
| 251 | - | 10 30pm | 24.45 | - | 10 30pm | 32.— | - | - | 37.— | 1 |
| 252 | - | - | 24.45 | - | - | 32.— | - | - | 37.— | 1 |
| 253 | — | — | — | — | — | — | — | — | — | |
| 254 | - | - | 24.45 | - | 2 25pm | 25.10 | — | — | — | |
| 255 | - | - | 24.45 | - | 10 30pm | 32.— | - | - | 37.— | 1 |
| 256 | - | - | 24.45 | - | - | 32.— | - | - | 37.— | 2 |
| 257 | - | 6 50pm | 24.10 | — | — | — | — | — | — | |
| 258 | - | 10 30pm | 24.45 | - | - | 32.— | - | - | 37.— | 2 |
| | - | 7 50pm | 21.65 | — | — | — | — | — | — | |

Jump small lines yesterday 1.7.97

Jump small lines yesterday 1.8.97

Exploded

| Order | Marked | Monday Jan. 11. 97 Time on | Time off | Total hours | Tues: Jan. 12. 97 Time on | Time off | Total hours | Wednes Jan. 13. 97 Time on | Time off | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 8.15 | 6 pm | 4255.10 | 7.15 | 10 pm | 4267.55 | 7 am | 11 pm | 4280.55 |
| 128 | 205a | . | . | 502.20 | . | . | 515.05 | . | . | 528.05 |
| 129 | 205b | . | . | 502.20 | . | . | 515.05 | . | . | 528.05 |
| 130 | 205c | . | . | 502.20 | . | . | 515.05 | . | . | 528.05 |
| 131 | 205d | . | . | 502.20 | . | . | 515.05 | . | . | 528.05 |
| 132 | 205e | . | . | 491.25 | . | . | 504.10 | . | . | 517.10 |
| 153 | 21 | . | . | 314.50 | . | . | 327.35 | . | . | 340.35 |
| 157 | 26 | . | . | 314.50 | . | . | 327.35 | . | . | 340.35 |
| 163 | 32 | . | . | 314.50 | . | . | 327.35 | . | . | 340.35 |
| 169 | 38 | . | . | 314.50 | . | 3 30 pm | × 316.05 | — | | — |
| 170 | 40 | . | . | 314.50 | . | 2 30 pm | × 321.25 | — | | — |
| 182 | 205h | . | . | 201.— | . | 10 30 pm | 213.45 | . | | 226.45 |
| 183 | 205i | . | . | 201.— | . | . | 213.45 | . | | 226.45 |
| 185 | 205k | . | . | 201.— | . | . | × 213.45 | . | | 226.45 |
| 188 | 57 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 195 | 58 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 200 | 63 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 202 | 65 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 204 | 67 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 205 | 69 | . | . | 128.35 | . | . | + 141.20 | . | | 154.20 |
| 206 | 71 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 207 | 72 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 208 | 73 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 209 | 74 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 215 | 80 | . | . | 127.20 × | — | | — | — | | — |
| 218 | 83 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 220 | 85 | . | . | 128.35 | . | . | + 141.20 | . | | 154.20 |
| 221 | 86 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 228 | 93 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 230 | 95 | . | . | 128.35 | . | . | 141.20 | . | | 154.20 |
| 232 | 97 | . | . | 128.35 | . | . | + 141.20 | . | | 154.20 |
| 234 | 205m | . | . | 91.35 | . | . | 104.20 | . | | 117.20 |
| 235 | 205n | . | . | 91.35 | . | . | 104.05 | . | | 117.05 |
| 236 | 99 | . | . | 44.45 | . | . | 57.30 | . | | 70.30 |
| 238 | 101 | . | . | 44.45 | . | 7 45 am | × 45.15 | — | | — |
| 240 | 104 | . | . | 44.45 | . | 6 30 pm | 57.30 | . | | 70.30 |

Stock off 1 hour

Stock off 1 hour

45 minutes deducted for dinner on Monday

deducted 1 hour for dinner



| Order | Marked | Thurs: Jan. 14. 97 Time on | Time off | Total hours | Friday Jan. 15. 97 Time on | Time off | Total hours | Saturday 1. 16. 97 Time on | Time off | Total hours | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 7 am | 11 pm | 4293.40 | 7 30 am | 10 pm | 4306.10 | 7 am | 12 | 4311.10 | 2 |
| 128 | 205a | . | . | 540.50 | . | . | 553.20 | . | . | 558.20 | 3 |
| 129 | 205b | . | . | 540.50 | . | . | 553.20 | . | . | 558.20 | 1 |
| 130 | 205c | . | . | 540.50 | . | . | 553.20 | . | . | 558.20 | 1 |
| 131 | 205d | . | . | 540.50 | . | . | 553.20 | . | . | 558.20 | 2 |
| 132 | 205e | . | . | 529.55 | . | . | 542.25 | . | . | 547.25 | 1 |
| 153 | 21 | . | . | 353.20 | . | . | 365.50 | . | . | 370.50 | 1 |
| 157 | 26 | . | . | 353.20 | . | . | 365.50 | . | . | 370.50 | 1 |
| 163 | 32 | . | . | 353.20 | . | . | 365.50 | . | . | 370.50 | 1 |
| 169 | 38 | — | — | — | — | — | — | — | — | — | — |
| 170 | 40 | — | — | — | — | — | — | — | — | — | — |
| 182 | 205h | . | . | 239.— | . | . | 251.30 | . | . | 256.30 | 2 |
| 183 | 205i | . | . | 239.— | . | . | 251.30 | . | . | 256.30 | 2 |
| 185 | 205k | . | 1 30 pm | × 231.35 | — | — | — | — | — | — | — |
| 188 | 57 | . | 11 pm | 167.05 | . | . | × 179.35 | . | . | 184.35 | 1 |
| 195 | 58 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 200 | 63 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 202 | 65 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 204 | 67 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 205 | 69 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 206 | 71 | . | . | 167.05 | . | . | 179.35 | . | . | × 184.35 | 1 |
| 207 | 72 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 2 |
| 208 | 73 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 209 | 74 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 215 | 80 | — | — | — | — | — | — | — | — | — | — |
| 218 | 83 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 220 | 85 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 221 | 86 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 228 | 93 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 230 | 95 | . | . | 167.05 | . | . | 179.35 | . | . | 184.35 | 1 |
| 232 | 97 | . | . | 167.05 | . | . | × 179.35 | . | . | 184.35 | 1 |
| 234 | 205m | . | × | 130.05 | 7 30 pm | ×× | 137.50 | — | | — | — |
| 235 | 205n | . | . | 129.50 | 4 pm | × | 137.20 | — | | — | — |
| 236 | 99 | . | . | 83.15 | . | . | 95.45 | . | . | 100.45 | 2 |
| 238 | 101 | — | — | — | — | — | — | — | — | — | — |
| 240 | 104 | . | . | 83.15 | . | . | 95.45 | . | . | 100.45 | 2 |

| Order | Mailed | Monday Jan. 11.97 cont'd Time on | Time off | Total hours | Tuesday 1.12.97 cont'd Time on | Time off | Total hours | Wednes. 1.13.97 Time on | Time off | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 105 | 8.15am | | 44.45 | 7.45am | 10.15pm | 57.30 | 7.45am | 11pm | 70.30 |
| 242 | 106 | " | | 44.45 | " | " | 57.30 | " | | 70.30 |
| 247 | 111 | " | | 44.45 | " | " | 57.30 | " | | 70.30 |
| 250 | 114 | " | | 44.45 | " | " | 57.30 | " | | 70.30 |
| 251 | 115 | " | | 44.45 | " | " | 57.30 | " | | 70.30 |
| 254 | 119 | " | | 44.45 | " | 8.30am | 46.— | — | | — |
| 255 | 120 | " | | 44.45 | " | 10.30pm | 57.30 | " | | 70.30 |
| 257 | 123 | " | | 44.45 | " | " | 57.30 | " | | 70.30 |

| Order | Thursday 1.14.97 cont'd Time on | Time off | Total hours | Friday 1.15.97 cont'd. Time on | Time off | Total hours | Saturday 1.16.97 cont'd Time on | Time off | Total hours | |
|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 7am | 11pm | 83.15 | 7am | 10pm | 95.45 | 7am | 12M | 100.45 | 1 |
| 242 | " | " | 83.15 | " | 7.45pm | 93.30 | | | ~~100.45~~ | |
| 247 | " | " | 83.15 | " | 10pm | 95.45 | " | " | 100.45 | 2 |
| 250 | " | " | 83.15 | " | " | 95.45 | " | " | 100.45 | 1 |
| 251 | " | " | 83.15 | " | " | 95.45 | " | " | 100.45 | 1 |
| 254 | — | — | — | — | — | — | — | — | — | |
| 255 | " | " | 83.15 | " | " | 95.45 | " | " | 100.45 | 1 |
| 257 | " | " | 83.15 | " | " | 95.45 | " | " | 100.45 | 2 |



49

| Order | Marked | Monday Jan 18-97 Contd Time on | Time off | Total hours | Tuesday Jan 19-97 Contd Time on | Time off | Total hours | Wednesday Jan 20-97 Time on | Time off | Total hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 48[B] | Lost Order | | 4915.25 | 7.00 | 9 P.M. | 4328.25 | 7 am | 9 P.M. | 4341.25 |
| 128 | 208[A] | " | " | 562.35 | " | " | 575.35 | " | " | 588.35 |
| 129 | 208[B] | " | " | 562.35 | " | " | 575.35 | " | " | 588.35 |
| 130 | 208[C] ✓ | " | " | 562.35 | " | | 567.50 | | | = |
| 131 | 208[D] | " | " | 562.35 | " | " | 575.35 | " | " | 588.35 |
| 132 | 208[E] ✓ | " | " | 551.40 | " | | 553.90 | | | = |
| 133 | 21 | " | " | 375.05 | " | " | 388.05 | " | " | 401.05 |
| 137 | 26 ✓ | " | " | 375.05 | " | | 378.05 | | | = |
| 163 | 32 ✓ | " | " | 375.05 | " | " | 388.05 | " | " | 401.05 |
| 182 | 208[H] | " | " | 260.45 | " | " | 273.45 | " | " | 286.45 |
| 183 | 208[I] | " | " | 260.45 | " | " | 273.45 | " | " | 286.45 |
| 188 | 51 ✓ | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 195 | 58 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 200 | 63 ✓ | " | " | 188.50 | " | " | 201.50 | " | 3.50 P.M. 9.40 PM | 208.50 |
| 202 | 65 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 204 | 67 ✓ | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 205 | 69 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 206 | 71 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 207 | 72 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 208 | 73 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 209 | 74 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 218 | 83 ✓ | " | " | 188.50 | " | " | 201.50 | " | " | 210.10 |
| 220 | 85 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 221 | 86 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 228 | 93 | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 230 | 95 ✓ | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 232 | 97 ✓ | " | " | 188.50 | " | " | 201.50 | " | " | 214.50 |
| 236 | 99 | " | " | 105.00 | " | " | 118.00 | " | " | 131.00 |
| 240 | 104 ✓ | " | | 105.00 | | | 114.30 | | | = |
| 241 | 105 ✓ | " | | 105.00 | " | " | 118.00 | " | " | 131.00 |
| 247 | 111 | " | " | 105.00 | " | " | 118.00 | " | " | 131.00 |
| 250 | 114 | " | " | 105.00 | " | " | 118.00 | " | " | 131.00 |
| 251 | 115 ✓ | " | " | 105.00 | " | | 106.10 | | | = |
| 255 | 120 | " | " | 105.00 | " | " | 118.00 | " | " | 131.00 |
| 257 | 123 | " | " | 105.00 | " | " | 118.00 | " | " | 131.00 |
| 259 | Spare 11 | | | | 8 pm 4.25 | | 4.35 | " | " | 17.35 |

| Order | Thursday Jan 21-97 Contd Time on | Time off | Total hours | Friday Jan 22-97 Time on | Time off | Total hours | Saturday Jan 23-97 Time on | Time off | Total hours |
|---|---|---|---|---|---|---|---|---|---|
| 38 | 7 am | 8 P.M. | 4354.25 | 7.00 A.M. | 8 P.M. 8.00 | 4366.25 | 7.00 A.M. | 8.00 P.M. | 4372.25 |
| 128 | " | " | 601.35 | " | " | 613.35 | " | " | 619.35 |
| 129 | " | " | 601.35 | " | " | 613.35 | " | " | 619.35 |
| 130 | " | " | = | | | = | | | = |
| 131 | " | " | 601.35 | " | " | 613.35 | " | " | 619.35 |
| 132 | " | " | = | | | = | | | = |
| 133 | " | " | 414.05 | " | " | 426.05 | " | " | 432.05 |
| 137 | | | = | | | = | | | = |
| 163 | " | " | 412.10 | | | = | | | = |
| 182 | " | " | 299.45 | " | " | 311.45 | " | " | 317.45 |
| 183 | " | " | 299.45 | " | " | 311.45 | " | " | 317.45 |
| 188 | " | " | 227.50 | " | 9.30 AM | 230.20 | | | = |
| 195 | " | " | 227.50 | " | 5.00 PM | 239.50 | " | " | 245.50 |
| 200 | | | = | | | = | | | = |
| 202 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 204 | " | " | 217.50 | | | = | | | = |
| 205 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 206 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 207 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 208 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 209 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 218 | " | " | = | | | = | | | = |
| 220 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 221 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 228 | " | " | 227.50 | " | " | 239.50 | " | " | 245.50 |
| 230 | " | " | 227.50 | " | 8.05 AM | 228.55 | | | = |
| 232 | " | " | 227.50 | " | 1.40 PM | 233.30 | | | = |
| 236 | " | " | 1 44.00 | " | 8.00 PM | 156.00 | " | " | 162.00 |
| 240 | | | = | | | = | | | = |
| 241 | " | " | 1 44.00 | " | " | 156.00 | " | 12.15 P.M. 1.00 PM | 161.15 |
| 247 | " | " | 1 44.00 | " | " | 156.00 | " | " | 162.00 |
| 250 | " | " | 1 44.00 | " | " | 156.00 | " | " | 162.00 |
| 251 | | | = | | | = | | | = |
| 255 | " | " | 1 44.00 | " | " | 156.00 | " | " | 162.00 |
| 257 | " | " | 1 44.00 | " | " | 156.00 | " | " | 162.00 |
| 259 | 7 P.M. Clerk for Reader | | 30.05 | 10 | 9 AM | Reader for Journeyman | | | 47.55 |

| | | Monday Jan 25th 97 | | | Tues Jan 26th 97 | | | Wed Jan 27th 97 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Time | | | Time | | | Time | | |
| Order | Inspected | On | Off | Total Hours | On | Off | Total Hours | On | Off | Total Hours |
| 38 | 43 B | 7.15 AM | 5.00 PM | 438.50 | 7.15 AM | 6.00 PM | 438.00 | 7.00 AM | 5.00 PM | 440.00 |
| 128 | 205 A | " | " | 632.20 | " | " | 643.20 | " | " | 656.20 |
| 129 | 205 B | " | " | 632.20 | " | " | 643.20 | " | " | 656.20 |
| 131 | 205 D | " | " | 632.20 | " | " | 643.20 | " | " | 656.20 |
| 153 | 21 | " | " | 444.50 | " | " | 455.50 | " | " | 468.50 |
| 182 | 205 H | " | " | 330.30 | " | " | 341.30 | " | " | 354.30 |
| 183 | 205 I | " | " | 330.30 | " | " | 341.30 | " | " | 354.30 |
| 195 | 58 | " | " | 258.35 | " | 11.15 AM | 262.35 | " | " | = |
| 202 | 65 | " | 2.20 PM | 252.55 | " | 1.15 PM | = | " | " | = |
| 205 | 69 | " | 5.00 PM | 258.35 | " | 3.35 PM | 265.35 | " | " | = |
| 206 | 71 | " | " | 258.35 | " | 6.15 PM | 269.35 | " | " | 282.35 |
| 207 | 72 | " | " | 258.35 | " | " | 269.35 | " | " | 282.35 |
| 208 | 73 | " | " | 258.35 | " | " | 269.35 | " | " | 282.35 |
| 209 | 74 | " | 11.55 AM | 249.30 | " | " | = | " | " | = |
| 220 | 85 | " | 5.00 PM | 258.35 | " | 7.50 AM | 259.00 | " | | = |
| 221 | 86 | " | " | 258.35 | " | 6.15 PM | 269.35 | " | " | 282.35 |
| 228 | 93 | " | " | 258.35 | " | " | 269.35 | " | " | 282.35 |
| 236 | 99 | " | " | 174.45 | " | " | 185.45 | " | " | 198.45 |
| 247 | 111 | " | " | 174.45 | " | " | 185.45 | " | " | 198.45 |
| 250 | 114 | " | " | 174.45 | " | " | 185.45 | " | 11.20 AM | 190.05 |
| 255 | 120 | " | " | 174.45 | " | " | 185.45 | " | 5.00 PM | 198.45 |
| 257 | 123 | " | " | 174.45 | " | " | 185.45 | " | " | 198.45 |
| 259 | Spec 14 | " | " | 59.55 | " | " | 68.10 | " | " | 81.10 |

| | Thur Jan 28th 97 | | | Fri Jan 29th 97 | | | Sat Jan 30th 97 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Time | | | Time | | | Time | | |
| Order | On | Off | Total Hours | On | Off | Total Hours | On | Off | Total Hours |
| 38 | 7.00 AM | 5.00 PM | 442.00 | 7.00 AM | 5.00 PM | 443.00 | 7.00 AM | 12.00 m. | 443.00 |
| 128 | " | " | 669.20 | " | " | 682.20 | " | " | 687.20 |
| 129 | " | " | 669.20 | " | " | 682.20 | " | " | 687.20 |
| 131 | " | " | 669.20 | " | " | 682.20 | " | " | 687.20 |
| 153 | " | " | 481.50 | " | " | 494.50 | " | " | 499.50 |
| 182 | " | " | 367.30 | " | " | 380.30 | " | " | 385.30 |
| 183 | " | " | 367.30 | " | " | 380.30 | " | " | 385.30 |
| 195 | | | = | | | = | | | = |
| 202 | | | = | | | = | | | = |
| 205 | | | = | | | = | | | = |
| 206 | | | = | | | = | | | = |
| 207 | " | " | 295.35 | " | " | 308.35 | " | " | 313.35 |
| 208 | " | " | 295.35 | " | " | 308.35 | " | " | 313.35 |
| 209 | " | 2.15 PM | 284.50 | | | = | | | = |
| 220 | | | = | | | = | | | = |
| 221 | | | = | | | = | | | = |
| 228 | " | " | 295.35 | " | " | 308.35 | | 10.50 AM | 312.25 |
| 236 | " | " | 295.35 | " | " | 308.35 | " | 12.00 M | 318.35 |
| 247 | " | 10.45 AM | 202.30 | | | = | | | = |
| 250 | " | 5.00 PM | 209.35 | | | = | | | = |
| 255 | | | = | | | = | | | = |
| 257 | " | 10.40 AM | 202.25 | | | = | | | = |
| 259 | " | 5.00 PM | 211.45 | " | " | 224.45 | " | " | 229.45 |
| | " | " | 94.10 | " | " | 107.10 | " | " | 112.10 |

| Order | Marked | From Feb 1st 97 Time On | Time Off | Total Hours | Tues 2-2-97 Time On | Time Off | Total Hours | Wed 2-3-97 Time On | Time Off | Total Hours |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7.00 AM | 6.00 PM | | 7.30 A.M. | 6.30 PM | | 7.00 AM | 6.00 PM | |
| 38 | 438 | | | 4452,00 | | | 4465.00 | | | 4,478,00 |
| 128 | 205-A | " | " | 700.20 | " | " | 713.20 | " | " | 726,00 |
| 129 | 205-B | " | " | 700,20 | " | " | 713,20 | " | " | 726,00 |
| 131 | 205-D | " | " | 700,20 | " | " | 713,20 | " | " | 726.00 |
| 153 | 21 | " | " | 512 50 | " | " | 525.50 | " | " | 538,00 |
| 182 | 205-H | " | 7.15 PM | 330.00 | " | " | = | . | " | = |
| 183 | 205-I | " | 5.00 PM | 498.30 | " | " | 511.30 | " | " | 524.30 |
| 206 | 71 | " | 7 9.35 | 326 35 | " | " | 339.35 | " | " | 352.35 |
| 207 | 72 | " | 12.00 noon 8.00 | 316,10 | " | " | = | | | = |
| 228 | 93 | " | PM | 326,35 | " | " | 339,35 | " | 4.00 PM | 348.35 |
| 257 | 123 | " | - | 242,45 | " | " | 255.45 | " | | 268.45 |
| 259 | Spec H | " | - | 125.10 | " | " | 138,10 | " | | 151,10 |
| 260 | | | | | | | | 12.00 M | 8.00 PM | 8 hrs |
| 261 | | | | | | | | " | " | 8 " |
| 262 | | | | | | | | " | " | 8 " |
| 263 | | | | | | | | " | " | 8 " |
| 264 | | | | | | | | " | " | 8 " |
| 265 | | | | | | | | " | " | 8 " |
| 266 | | | | | | | | " | " | 8 " |



| Order | Marked | Thur 2-4-97 Time On | Time Off | Total Hours | Friday 2-5-97 Time On | Time Off | Total Hours | Sat 2-6-97 Time On | Time Off | Total Hours |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7.00 A.M. | 6.00 PM | | 7.00 A.M. | 6.00 PM | | 7.00 A.M. | 12.00 M | |
| 38 | 438 | " | " | 4491,00 | " | " | 4,504,00 | " | " | 4509,00 |
| 128 | 205-A | " | " | 739,00 | " | " | 751,00 | " | " | 756,00 |
| 129 | 205-B | " | " | 739,00 | " | " | 751,00 | " | " | 756,00 |
| 131 | 205-D | " | " | 739,00 | " | " | 751,00 | " | " | 756,00 |
| 153 | 21 | " | " | 551,00 | " | " | 564,00 | " | " | 569.00 |
| 182 | 205-H | | | = | | | = | | | = |
| 183 | 205-I | " | " | 537,30 | " | " | 550,30 | " | " | 555.30 |
| 206 | 71 | | | | | 12.50 PM | | | | = |
| 207 | 72 | " | " | 365.35 | | | 371.05 | | | = |
| 228 | 93 | | | = | | | = | | | = |
| 257 | 123 | | | = | | | = | | | = |
| 259 | Spec H | " | " | 281,45 | " | 8.00 PM | 294,45 | " | " | 299 45 |
| 260 | | " | " | 164,10 | " | " | 177,10 | " | " | 182,10 |
| 261 | | " | | 20,15 | " | | 32,00 | " | " | 34.30 |
| 262 | | " | | 20,15 | " | | 32,00 | 9.30 A.M. | 12 noon M | 34 30 |
| 263 | | " | | 20,15 | " | | 32,00 | " | " | 34.30 |
| 264 | | " | | 20,15 | " | | 32,00 | " | " | 34.30 |
| 265 | | " | | 20,15 | " | | 32,00 | " | " | 34,30 |
| 266 | | " | | 20,15 | " | | 32,00 | " | " | 34,30 |

43 forwarding

Carried forward to next page

| Order | Marked | Mon 2-8-97 Time on | Time off | Total Hours | Tues 2-8-97 Time on | Time off | Total Hours | Wed 2-10-97 Time on | Time off | Total Hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 7.00 A.M. | 6.00 PM | 4.5 20.00 | 7.00 AM | 6.00 PM | 4.5 34.00 | 7.00 AM | 6.00 PM | 4.5 48.00 |
| 128 | 205A | " | " | 767.00 | " | " | 781.00 | " | " | 795.00 |
| 129 | 205B | " | " | 767.00 | " | " | 781.00 | " | " | 795.00 |
| 131 | 205D | " | " | 767.00 | " | " | 781.00 | " | " | 795.00 |
| 133 | 21 | " | 4.30 PM | 578.15 | | | = | | | = |
| 183 | 205I | " | 6.15 PM | 566.30 | " | " | 580.30 | " | " | 594.30 |
| 257 | 123 | " | " | 310.45 | " | " | 324.45 | " | " | 338.45 |
| 259 | Sheet 11 | " | " | 193.10 | " | " | 207.10 | " | " | 221.10 |
| 260 | C2 | " | " | 45.30 | " | 1.15 PM | 52.00 | 10.50 AM | " | 62.45 |
| 261 | N1 | " | " | 45.30 | " | " | 52.00 | " | " | 62.45 |
| 262 | C2 | " | " | 45.30 | " | " | 52.00 | " | " | 62.45 |
| 263 | S2 | " | " | 45.30 | " | " | 52.00 | " | " | 62.45 |
| 264 | J2 | " | " | 45.30 | " | " | 52.00 | " | " | 62.45 |
| 265 | S1 | " | " | 45.30 | " | " | 52.00 | " | " | 62.45 |
| 266 | F1 | " | " | 45.30 | " | " | 52.00 | " | " | 62.45 |

| Order | Marked | Mon 2-15-97 Time on | Time off | Total hrs | Tues 2-16-97 Time on | Time off | Total hrs | Wed 2-17-97 Time on | Time off | Total hrs |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 7.00 AM | 6.00 PM | 4.5 93.00 | 7.00 AM | 6.00 PM | 4.606.00 | 7.00 AM | 6.30 PM | 4.619.30 |
| 129 | 205B | " | " | 840.00 | " | " | 853.00 | " | " | 866.30 |
| 131 | 205D | " | " | 840.00 | " | " | 853.00 | " | " | 866.30 |
| 183 | 205I | " | " | 639.30 | " | " | 652.30 | " | " | 666.30 |
| 257 | 123 | " | " | 383.45 | " | " | 396.45 | " | " | 410.15 |
| 259 | Sheet 11 | " | " | 266.10 | " | " | 279.10 | " | " | 289.40 |
| 260 | C2 | " | " | 107.45 | " | " | 120.45 | " | " | 134.15 |
| 261 | N1 | " | " | 107.45 | 7.30 AM | " | 108.15 | | | = |
| 263 | S2 | " | " | 107.45 | 8.00 PM | " | 120.45 | " | " | 134.15 |
| 264 | J2 | " | " | 107.45 | " | " | 120.45 | " | " | 134.15 |
| 265 | S1 | " | " | 107.45 | " | " | 120.45 | " | " | 134.15 |
| 266 | F1 | " | " | 107.45 | " | " | 120.45 | " | " | 134.15 |



| Order | Marked | Thur 2-11-97 Time on | Time off | Total Hours | Fri 2-12-97 Time on | Time off | Total Hours | Sat 2-13-97 Time on | Time off | Total Hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 7.00 AM | 6.00 PM | 4.562.00 | 7.00 AM | 6.00 PM | 4.576.00 | 7.00 AM | 6.00 PM | 4.582.00 |
| 128 | 205A | " | 12.30 AM | 799.50 | | | = | | | = |
| 129 | 205B | " | 7.00 PM | 809.00 | " | " | 823.00 | " | " | 829.00 |
| 131 | 205D | " | " | 809.00 | " | " | 823.00 | " | " | 829.00 |
| 183 | 205I | | | = | | | = | | | = |
| 257 | 123 | " | " | 608.30 | " | " | 622.30 | " | " | 628.30 |
| 259 | Sheet 11 | " | " | 352.45 | " | " | 366.45 | " | " | 372.45 |
| 260 | C2 | " | " | 235.10 | " | " | 249.10 | " | " | 255.10 |
| 261 | N1 | " | " | 76.45 | " | " | 90.45 | " | " | 96.45 |
| 262 | C2 | " | " | 76.45 | " | " | 90.45 | " | " | 96.45 |
| 263 | S2 | " | " | 76.45 | " | 10.00 AM 9.00 PM | 79.45 | | | = |
| 264 | J2 | " | " | 76.45 | " | " | 90.45 | " | " | 96.45 |
| 265 | S1 | " | " | 76.45 | " | " | 90.45 | " | " | 96.45 |
| 266 | F1 | " | " | 76.45 | " | " | 90.45 | " | " | 96.45 |

| Order | Marked | Thur 2-18-97 Time on | Time off | Total hrs | Fri 2-19-97 Time on | Time off | Total hrs | Sat 2-20-97 Time on | Time off | Total hrs |
|---|---|---|---|---|---|---|---|---|---|---|
| 38 | 43B | 7.00 AM | 6.30 PM | 4633.00 | 7.00 AM | 5.00 P.M. | 4643.00 | 7.00 AM | 6.00 PM | 4650.00 |
| 129 | 205B | " | " | 880.00 | " | " | 892.00 | " | " | 897.00 |
| 131 | 205D | " | " | 880.00 | " | " | 892.00 | " | " | 897.00 |
| 183 | 205I | " | " | 680.00 | " | " | 692.00 | " | " | 697.00 |
| 257 | 123 | " | " | 423.45 | " | " | 435.45 | " | " | 440.45 |
| 259 | Sheet 11 | " | " | 303.10 | " | " | 315.10 | " | " | 320.10 |
| 260 | C2 | " | " | 147.45 | " | " | 159.45 | " | " | 164.45 |
| 261 | N1 | | | = | | | = | | | = |
| 263 | S2 | 7.15 PM | | 146.30 | | | = | | | = |
| 264 | J2 | 7.25 PM | | 144.40 | | | = | | | = |
| 265 | S1 | 8.30 PM | | 147.45 | " | " | 159.45 | " | " | 164.45 |
| 266 | F1 | 3.15 PM | | 142.30 | | | = | | | = |

| Order | Marked | Mon 3-22-97 Time on | off | Total hrs | Tues 3-23-97 Time on | off | Total hrs | Wed 3-24-97 Time on | off | Total hrs |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7:00 AM. | 8:00 P.M. | | 7:00 AM | 8:00 PM | | 7:30 am | 8:00 PM | |
| 38 | 43B | " | " | 4,663,00 | " | " | 4,676,00 | " | " | 4,687,00 |
| 129 | 205B | " | " | 910,00 | " | " | 923,00 | " | " | 934,00 |
| 131 | 205D | " | " | 910,00 | " | " | 923,00 | " | " | 934,00 |
| 183 | 205E | " | " | 710,00 | " | " | 723,00 | " | " | 734,00 |
| 257 | 123 | " | " | 453,45 | " | 6:45 PM | 465,30 | | | = |
| 259 | Spec 1st | " | " | 333,10 | " | 7:00 PM | 34610 | " | " | 357,00 |
| 260 | C0 | " | " | 177,45 | " | 9:35 PM | 187,10 | | | = |
| 265 | S11 | " | " | 177,45 | " | 8:00 PM | 190,45 | " | " | 201,00 |

| Order | Marked | Mon March 24-97 Time on | off | Total hrs | Tues 3-2-97 Time on | off | Wed 3-3-97 Time on | off |
|---|---|---|---|---|---|---|---|---|
| | | 7:00 AM | 8:15 PM | | | | | |
| 38 | 43B | " | " | 4,728,45 | | | | |
| 129 | 205B | " | " | 975,45 | | | | |
| 131 | 205D | " | " | 975,45 | | | | |
| 183 | 205E | " | " | 675,45 | | | | |
| 259 | Spec 1st | " | " | 398,45 | | | | |
| 265 | S11 | " | " | 242,45 | | | | |
| 267 | Lamp Lach | 11-17-97 | | | | | | |
| 268 | Bamboo | | | | | | | |
| 267 | Lamp Lach | 7.AM | 11-18-97 6.PM | 31 ¼ | 11-19-97 7.30AM | 11-19-97 6.PM | 41 ¼ | 11-17-97 8.AM |
| 268 | Bamboo | " | " | " | 7.AM | 6.PM | " | 7.AM |
| 267 | Lamp Lach | 7.AM | 11-25-97 6.PM | 11-25-97 88½ hrs | 7:00 AM | 6.00 PM | 98½ hrs | 7:00 AM |
| 269 | Box 1 | 9AM | 6 PM | 9 hrs | " | " | 20 hrs | 11:00 AM |
| 270 | Box 2 | " | " | 9 " | " | " | 20 " | " |
| 271 | " 3 | " | " | 9 " | " | " | 20 " | " |
| 272 | " 4 | " | " | 9 " | " | " | 20 " | " |
| 273 | " 5 | " | " | 9 " | " | " | 20 " | " |
| 274 | " 6 | " | " | 9 " | " | " | 20 " | " |
| 275 | " 7 | " | " | 9 " | " | " | 20 " | " |
| 276 | " 8 | " | " | 9 " | " | " | 20 " | " |
| 277 | " 9 | " | " | 9 " | " | " | 20 " | " |
| 278 | " 10 | " | " | 9 " | " | " | 20 " | " |
| 279 | " 11 | " | " | 9 " | " | " | 20 " | " |
| 280 | " 13 | " | " | 9 " | " | " | 20 " | " |



| Order | Marked | Thur 3-25-97 Time on | off | Total hrs | Fri 3-26-97 Time on | off | Total hrs | Sat 3-27-97 Time on | off | Total hrs |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7:00 am | 8:00 PM | | 7:00 am | 8:30 PM | | 7:00 am | 12:00 M | |
| 38 | 43B | " | " | 4,700,00 | " | " | 4713,30 | " | " | 4718,30 |
| 129 | 205B | " | " | 947,00 | " | " | 960,30 | " | " | 965,30 |
| 131 | 205D | " | " | 947,00 | " | " | 960,30 | " | " | 965,30 |
| 183 | 205E | " | " | 647,00 | " | " | 660,30 | " | " | 665,30 |
| 259 | Spec 1st | | | = | | | = | | | = |
| 260 | C0 | " | " | 370,00 | " | " | 383,30 | " | " | 388,30 |
| 265 | S11 | " | " | = | | | = | | | = |
| | | " | " | 214,00 | " | " | 227,30 | " | " | 232,30 |

| Order | Marked | Thur 3-4-97 Time on | off | Fri 3-5-97 Time on | off | Sat 3-6-97 Time on | off |
|---|---|---|---|---|---|---|---|
| 267 | Lamp Lach | 11-11-97 7:30 7.AM | 6.PM | 11-12-97 8.AM | 6.PM | 11-13-97 7.AM | 6.PM |
| 268 | Bamboo | " | " | " | " | " | " |
| 267 | Lamp Lach | 11-18-97 7.AM | 6.PM | 11-19-97 7.AM | 6.PM | 11-20-97 7.AM | 12.M |
| 269 | Box 1 | — | — | 109 | 7:00 Am | 6.00 Pm | 119,50 |
| 270 | Box 2 | — | — | 27 hrs | " | " | 38.00 |
| 271 | " 3 | — | — | " | " | " | 38 " |
| 272 | " 4 | — | — | " | " | " | 38 " |
| 273 | " 5 | — | — | " | " | " | 38 " |
| 274 | " 6 | — | — | " | " | " | 38 " |
| 275 | " 7 | — | — | " | " | " | 38 " |
| 276 | " 8 | — | — | " | " | " | 38 " |
| 277 | " 9 | — | — | " | " | " | 38 " |
| 278 | " 10 | — | — | " | " | " | 38 " |
| 279 | " 11 | — | — | " | " | " | 38 " |
| 280 | " 13 | — | — | " | " | " | 38 " |

| Order | Marked | Monday Time on | Monday Time off | Monday Total hours | Tuesday Time on | Tuesday Time off | Tuesday Total hours | Wednesday Time on | Wednesday Time off | Wednesday Total hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 281 | Box 14 | 9 PM. | 6 PM | 9 hrs | 11 am | 6 PM | 20 hrs | 11 AM am | 6 00 | 27 hrs |
| 282 | " 15 | " | " | 9 " | " | " | 20 " | " | | 27 " |
| 283 | " 16 | " | " | 9 " | " | " | 20 " | " | | 27 " |
| 284 | " 17 | " | " | 9 " | " | " | 20 " | " | | 27 " |
| 285 | " 18 | " | " | 9 " | " | " | 20 " | " | | 27 " |
| 286 | " 19 | " | " | 9 " | " | " | 20 " | " | 3 30 PM | 24 1/2 |
| 287 | " 20 | " | " | 9 " | " | " | 20 " | " | 6 00 PM | 27 hrs |
| 288 | | | | | 4 15 PM | 6 00 PM | 2,15 | 7 00 am | 6 00 PM | 13,15 |
| 289 | | | | | " | " | 2,15 | " | " | 13,15 |
| | | " 29 | 97 | | 9 | 11-30 | -97 | | 12-7 | -97 |
| 267 | Lent Factory | Monday 8 35 am | 6 PM | 134.05 | Tuesday 7 00 am | 6 00 PM | 144,20 | Wednesday 7 am | 6 00 PM | 154,35 |
| 269 | Box # 1 | 7 am | 6 PM | 51 hrs | " | " | 60 hrs | " | " | 71 hrs |
| 270 | " # 2 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 271 | " # 3 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 272 | " # 4 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 273 | " # 5 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 274 | " # 6 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 275 | " # 7 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 276 | " # 8 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 277 | " # 9 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 278 | " # 10 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 279 | " # 11 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 280 | " # 13 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 281 | " # 14 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 282 | " # 15 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 283 | " # 16 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 284 | " # 17 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 285 | " # 18 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 287 | " # 20 | " | " | 51 " | " | " | 60 " | " | " | 71 " |
| 288 | Lead Glass | " | " | 39 1/2 " | " | 4 15 PM | 4 3/4 " | | | X |
| 289 | Serman " | " | " | 39 1/2 " | " | " | 4 3/4 " | | | X |
| 290 | Lead " | | | | 2 30 PM | 6 00 PM | 3,30 | " | " | 14,30 |
| 291 | Serman " | | | | " | " | 3,30 | " | " | 14,30 |



| Order | Marked | Thursday Time on | Thursday Time off | Thursday Total hrs | Friday Time on | Friday Time off | Friday Total hrs | Saturday Time on | Saturday Time off | Saturday Total hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 281 | Box 14 | — | — | 27 hrs | 7 00 am | 6 00 PM | 38.00 | " | " | 40 hrs |
| 282 | " 15 | — | — | 27 hrs | " | " | 38,00 | " | " | 40 hrs |
| 283 | " 16 | — | — | 27 hrs | " | " | 38,00 | " | " | 40 " |
| 284 | " 17 | — | — | 27 " | " | " | 38,00 | " | " | 40 " |
| 285 | " 18 | — | — | 27 " | " | " | 38,00 | " | " | 40 " |
| 286 | " 19 | — | — | X | — | — | X | " | " | X |
| 287 | " 20 | — | — | 27 hrs | " | " | 38,00 | " | " | 40 " |
| 288 | | — | — | 13,15 | " | " | 23,30 | " | 12 M | 28 1/2 " |
| 289 | | — | — | 13,15 | " | " | 23,30 | " | 12 M | 28 1/2 " |
| | | 12-6 | -97 | | 12-7 | -97 | | 12-8 | -97 | |
| 267 | Lent Factory | Thursday 7 am | 6 PM | 164,35 | Friday 7 00 am | 6 00 PM | 174,35 | Saturday 7 am | 2 15 PM | 174,00 |
| 269 | Box # 1 | " | " | 80 hrs | " | " | 91 hrs | " | 12 Noon | 96 hrs |
| 270 | " # 2 | " | " | 80 " | " | " | 91 hrs | " | " | 96 " |
| 271 | " # 3 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 272 | " # 4 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 273 | " # 5 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 274 | " # 6 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 275 | " # 7 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 276 | " # 8 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 277 | " # 9 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 278 | " # 10 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 279 | " # 11 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 280 | " # 13 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 281 | " # 14 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 282 | " # 15 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 283 | " # 16 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 284 | " # 17 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 285 | " # 18 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 287 | " # 20 | " | " | 80 " | " | " | 91 " | " | " | 96 " |
| 288 | Lead Glass | | | X | | | X | | | X |
| 289 | Serman " | | | X | | | X | | | X |
| 290 | Lead " | " | 6 PM Saturday | 24,30 | " | " | 35,30 | " | " | 40 " |
| 291 | Serman " | " | " | 24,30 | " | " | 35-30 | " | " | 40 " |

| Order | Marked | | 12, 6, 97 Monday Time | Total Hours | 12, 7, 97 Tuesday Time | Total Hours | 12, 8, 97 Wednesday Time | Total Hours |
|---|---|---|---|---|---|---|---|---|
| 267 | Lamp | Factory | 7.00 am 8.30 pm | 184.20 | 7.00 am 6.00 pm | 193.20 | 7.00 am 6.00 pm | 206.20 |
| 269 | Box | # 1 | 7.00 | 104 — | " " | 115 hrs | " " | 126. hrs |
| 270 | " | # 2 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 271 | " | # 3 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 272 | " | # 4 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 273 | " | # 5 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 274 | " | # 6 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 275 | " | # 7 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 276 | " | # 8 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 277 | " | # 9 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 278 | " | # 10 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 279 | " | # 11 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 280 | " | # 13 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 281 | " | # 14 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 282 | " | # 15 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 283 | " | # 16 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 284 | " | # 17 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 285 | " | # 18 | 7.00 | 104 — | " " | 115 " | " " | 126 " |
| 287 | " | # 20 | 7.00 | 104 — | " " | 115 " | " 11.00 am 6.00 pm | 119.50 |
| 290 | Lead Glass | | 8.30 | 49.30 | " " | 60.30 | " " | 71.30 |
| 291 | Iserman | " | 8.30 | 49.30 | " " | 60.30 | " " | 71.30 |
| | | | 12 7.00 am | 13 6.00 pm | 14 7.00 am | 14 6.00 pm | 12 7.00 am | 15 6.00 pm |
| 267 | Lamp | Factory | 97 | 97 | 97 | 97 | 97 | 97 |
| | | | 244 hrs | 255 hrs | 255 hrs | 266 hrs | 277 hrs | 288 hrs |
| 269 | Box | # 1 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 270 | " | # 2 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 271 | " | # 3 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 272 | " | # 4 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 273 | " | # 5 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 274 | " | # 6 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 275 | " | # 7 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 276 | " | # 8 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 277 | " | # 9 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 278 | " | # 10 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 279 | " | # 11 | " " | 162.15 | " " | 173.15 | " " | 184.15 |
| 280 | " | # 13 | " " | 162.15 | " " | 173.15 | " " | 184.15 |



| Order | Marked | | 12, 9, 97 Thursday Time | Total Hours | 12, 10, 97 Friday Time | Total Hours | 12, 11, 97 Saturday Time | Total Hours |
|---|---|---|---|---|---|---|---|---|
| 267 | Lamp | Factory | 7.00 am 6.00 pm | 217.20 | 7.00 am 6.00 pm | 228 hrs | 7.00 am 12.00 hrs Saturday | 233 hrs |
| 269 | Box | # 1 | " " | 137 hrs | " " | 148 " | " " | 151,15 |
| 270 | " | # 2 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 271 | " | # 3 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 272 | " | # 4 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 273 | " | # 5 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 274 | " | # 6 | " " | 137 " | " " | 148 " | " " | 151 15 |
| 275 | " | # 7 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 276 | " | # 8 | " " | 137 " | " " | 148 " | " " | 151.15 |
| 277 | " | # 9 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 278 | " | # 10 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 279 | " | # 11 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 280 | " | # 13 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 281 | " | # 14 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 282 | " | # 15 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 283 | " | # 16 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 284 | " | # 17 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 285 | " | # 18 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 287 | " | # 20 | " " | 137 " | " " | 148 " | " " | 151,15 |
| 290 | Lead Glass | | " " | X | " " | X | " " | X |
| 291 | Iserman | " | " " | 82,30 | " " | 93,30 | " " | 98,30 |
| | | | 12 7.00 am | 16 6.00 pm | 12 7.00 am | 17 6.00 pm | 12 7.00 am | 18 12.00 Noy |
| 267 | Lamp | Factory | 97 | 97 | 97 | 97 | 97 | 97 |
| | | | 277 hrs | 277 hrs | 288 hrs | 288 hrs | | 291,15 |
| 269 | Box | # 1 | " " | 195,15 | " " | 206,15 | " " | 209,30 |
| 270 | " | # 2 | " " | 195.15 | " " | 206,15 | " " | 209,30 |
| 271 | " | # 3 | " " | 195.15 | " " | 206,15 | " " | 209,30 |
| 272 | " | # 4 | " " | 195.15 | " " | 206,15 | " " | 209,30 |
| 273 | " | # 5 | " " | 195.15 | " " | 206.15 | " " | 209,30 |
| 274 | " | # 6 | " " | 195.15 | " " | 206.15 | " " | 209,30 |
| 275 | " | # 7 | " " | 195,15 | " " | 206,15 | " " | 209,30 |
| 276 | " | # 8 | " " | 195.15 | " " | 206,15 | " " | 209,30 |
| 277 | " | # 9 | " " | 195.15 | " " | 206.15 | " " | 209,30 |
| 278 | " | # 10 | " " | 195.15 | " " | 206,15 | " " | 209,30 |
| 279 | " | # 11 | " " | 195,15 | " " | 206,15 | " " | 209,30 |
| 280 | " | # 13 | " " | 195.15 | " " | 206,15 | " " | 209,30 |

| No | Marked | 12, 13, 97 Monday Time On | Time Off | Total Hours | 12, 14, 97 Tuesday Time On | Time Off | Total Hours | 12, 15, 97 Wednesday Time On | Time Off | Total Hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 281 | Box # 14 | 7.00 am | 6.00 Pm | 162,15 | 7.00 am | 6.00 Pm | 173,15 | 7.00 am | 6.00 Pm | 184,15 |
| 282 | " # 15 | " | " | 162,15 | " | " | 173,15 | " | " | 184,15 |
| 283 | " # 16 | " | " | 162,15 | " | " | 173,15 | " | " | 184,15 |
| 284 | " # 17 | " | " | 162,15 | " | " | 173,15 | " | " | 184,15 |
| 285 | " # 18 | " | " | 162,15 | " | " | 173,15 | " | " | 184,15 |
| 290 | Lead Glass | " | " | 109,— | " | " | 120 — | " | " | 131, |
| 291 | Sterman " | " | " | 109,— | " | " | 120 — | " | " | 131, |
| 292 | Aylsworth | | | | 10.00 am | " | 8 | " | " | 19, |
| 293 | Box #15 | | | | " | " | 8 | " | " | 19, |
| 294 | " #15 Leaked | | | | " | " | 8 | " | " | 19, |
| 295 | Box # 3 Leaked Sheet Steel | | | | " | " | 8 | " | " | 19, |
| 296 | Aylsworth | | | | | | | | | |
| 297 | Lamp Factory | 12 7.00 am | 20 6.00 Pm | 96 | 12 7.00 am | 21 6.00 Pm | 96 | 12 7.00 am | 23 6.00 Pm | 96 |
| 269 | Box 1 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 270 | " 2 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 271 | " 3 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 272 | " 4 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 273 | " 5 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 274 | " 6 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 275 | " 7 | " | " | 220,30 | " | 7.00 am 6.00 Pm | 223,20 | | | X |
| 276 | " 8 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 277 | " 9 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 278 | " 10 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 279 | " 11 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 280 | " 13 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 281 | " 14 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 282 | " 15 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 283 | " 16 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 284 | " 17 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 285 | " 18 | " | " | 220,30 | " | " | 231,30 | " | " | 242,30 |
| 290 | Lead Glass | " | " | 169,— | " | " | 181,— | " | " | 192 — |
| 291 | Sterman " | " | " | 169, | " | " | 181,— | " | " | 192 — |
| 292 | Aylsworth | " | " | 51,30 | " | " | 62,30 | " | " | 73,30 |
| 293 | Box #15 | " | " | 51,30 | " | " | 62,30 | " | " | 73,30 |



| No | Marked | 12, 16, 97 Thursday Time On | Time Off | Total Hours | 12, 17, 97 Friday Time On | Time Off | Total Hours | 12, 18, 97 Saturday Time On | Time Off | Total Hours |
|---|---|---|---|---|---|---|---|---|---|---|
| 281 | Box # 14 | 7.00 am | 6.00 Pm | 195,15 | 7.00 am | 6.00 Pm | 206,15 | 7.00 am | 6.00 Pm | 209,30 |
| 282 | " # 15 | " | " | 195,15 | " | " | 206,15 | " | " | 209,30 |
| 283 | " # 16 | " | " | 195,15 | " | " | 206,15 | " | " | 209,30 |
| 284 | " # 17 | " | " | 195,15 | " | " | 206,15 | " | " | 209,30 |
| 285 | " # 18 | " | " | 195,15 | " | " | 206,15 | " | " | 209,30 |
| 290 | Lead Glass | " | " | 142 — | " | " | 153 — | " | " | 158, - |
| 291 | Sterman " | " | " | 142 — | " | " | 153 | " | " | 158 - |
| 292 | Aylsworth | " | " | 27 — | " | " | 38 | " | " | 40,30 |
| 293 | Box #15 | " | " | 27 — | " | " | 38 | " | " | 40,30 |
| 294 | " #15 Leaked | " | " | 27 — | " | " | 38 | " | " | 40,30 |
| 295 | Box # 3 Leaked Sheet Steel | " | " | 27 — | " | " | 38 | " | " | 40,30 |
| 296 | Aylsworth | | | | 4.30 Pm | 6.00 Pm | 1,30 | " | " | 6,30 |
| 297 | Lamp Factory | 2 7.00 am | 23 6.00 Pm | 96 | 12 7.00 am | 24 6.00 Pm | 96 | 12 | 25 | 97 |
| 269 | Box 1 | " | " | 235,15 | " | " | 346,15 | | | |
| 270 | " 2 | " | " | 253,30 | " | " | 264,30 | | | |
| 271 | " 3 | " | " | 253,30 | 7.00 am | 7.20 am | 254, | | | X |
| 272 | " 4 | " | " | 253,30 | " | 6.00 Pm | 264,30 | | | |
| 273 | " 5 | " | " | 253,30 | " | " | 264,30 | | | |
| 274 | " 6 | " | " | 253,30 | " | " | 264,30 | | | |
| 275 | " 7 | " | " | 253,30 | " | " | 264,30 | | | |
| 276 | " 8 | | | X | | | X | | | X |
| 277 | " 9 | " | " | 253,30 | " | " | 264,30 | | | |
| 278 | " 10 | " | " | 253,30 | " | " | 264,30 | | | |
| 279 | " 11 | " | " | 253,30 | " | " | 264,30 | | | |
| 280 | " 13 | " | " | 253,30 | " | " | 264,30 | | | |
| 281 | " 14 | " | " | 253,30 | " | " | 264,30 | | | |
| 282 | " 15 | " | " | 253,30 | " | " | 264,30 | | | |
| 283 | " 16 | " | " | 253,30 | " | " | 264,30 | | | |
| 284 | " 17 | " | " | 253,30 | " | " | 264,30 | | | |
| 285 | " 18 | " | " | 253,30 | " | " | 264,30 | | | |
| 290 | Lead Glass | " | " | 203 — | " | " | 214,— | | | |
| 291 | Sterman " | " | " | 203 — | " | " | 214,— | | | |
| 292 | Aylsworth | " | " | 84 — | " | " | 95 — | | | |
| 293 | Box #15 | " | " | 84 — | " | " | 95 | | | |

| #42 | Marked | 12-20-97 Monday Time | | Sold Hrs | 12-21-97 Tuesday Time | | | 12-22-97 Wednesday Time | | | 12-23-97 Thursday Time | | | 12-24-97 Friday Time | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 294 | Box #18 Slacked | 7 00 am | 6 00 pm | 51,30 | 7 00 | 6 00 pm | 62,30 | 7 00 am | 6 00 pm | 73,30 | 7 00 am | 6 00 pm | 84 hrs | 7 00 am | 6 00 pm | 95 hrs |
| 295 | Box #3 Sheet Steel | " | " | 51,30 | " | 1 45 pm | 58,15 | " | " | X | | " | X | | | X |
| 296 | Aylsworth | " | " | 17,30 | " | 9 00 am | 20, — | 11 30 am | " | 26,30 | 7 30 pm | " | 37,30 | " | " | 48,30 |
| 297 | Edison Jr | | | | | | | | | | | " | 4,30 | " | | 14,30 |
| 298 | Edison Jr | | | | | | | | | | | | | 2 00 pm | " | 4 hrs |
| | | December 29, 1897 | | | 12 28 | | 1897 | 12 29 | | 1897 | 12 30 | | 1897 | 12 31 | | 1897 |
| 267 | Lamp Jacks | 7 00 am | 5 00 pm | 356,15 | 7 00 am | 6 00 pm | 366,45 | 7 00 am | 6 00 pm | 377,45 hrs | 7 30 am | 6 00 pm | 387,45 hrs | 7 00 am | 6 00 pm | 398,45 hrs |
| 269 | Box # 1 | " | " | 274,30 | " | " | 285 hrs | " | " | 296 " | " | " | 306 " | " | " | 317, — |
| 271 | " 3 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 272 | " 4 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 273 | " 5 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| ~~274~~ | " 6 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 313 45 |
| 276 | " 8 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 277 | " 9 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 278 | " 10 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| ~~279~~ | " 11 | " | " | 274,30 | " | " | 285 " | 7 00 | 3 00 pm | 293 hrs | " | " | X | " | " | X |
| 280 | " 13 | " | " | 274,30 | " | " | 285 " | " | 6 00 pm | 296 " | " | " | 306 " | " | " | 317 — |
| 281 | " 14 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 282 | " 15 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| ~~283~~ | " 16 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 314 30 |
| 284 | " 17 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 285 | " 18 | " | " | 274,30 | " | " | 285 " | " | " | 296 " | " | " | 306 " | " | " | 317 — |
| 290 | Lead Glass | " | " | 224 — | " | " | 234,30 | " | " | 245,30 | " | " | 255,30 | " | " | 266 30 |
| 291 | Gizmos " | " | " | 224 — | " | " | 234,30 | " | " | 245,30 | " | " | 255,30 | " | " | 266,30 |
| ~~292~~ | Gizmos Aylsworth | " | 11 15 am | 98,15 | | | X | | | X | | | X | | | X |
| 293 | Box #15 | " | 5 00 pm | 105 — | " | " | 115,30 | " | " | 126, hrs | | | 136 hrs | " | " | 147 |
| 294 | Slack #3 | " | " | 105 — | " | " | 115,30 | " | " | 126 " | | | 136 " | " | " | 147 |
| ~~295~~ | Box #3 | | " | X | | | X hrs | " | | | | | X | | | X |
| 296 | Aylsworth Sheet Steel | " | " | 58,30 | " | " | 68, | " | " | 79 " | | | 89 " | " | " | 99 15 |
| 297 | Edison Jr | " | " | 24 — | " | " | 33,30 | " | " | 44 | | | 53,30 | " | " | 63,45 |
| 298 | Edison Jr | 2 30 pm | 6 00 pm | 13,30 | " | " | 23, hrs | " | " | 33,30 | | | 43, hrs | " | " | 53,15 |
| 299 | Aylsworth Slacked on Oil | | | 3,30 | " | " | 13, | 5 45 pm | 6 00 pm | 23,30 | | | 33, " | " | " | 43,15 |
| 300 | Box #2 Slacked wood | | | | | | | | | .45 | | | 10,45 | " | " | 21,45 |
| 301 | Box #4 Slacked wood | | | | | | | " | " | .45 | | | 10,45 | " | " | 21,45 |
| 302 | Box #6 Slacked wood | | | | | | | " | " | .45 | | | 10,45 | " | " | 21,45 |

| Order | Marked | Mon Jan 3rd 1898 Time | | hrs min | Tues Jan 4th 1898 Time | | Total hrs min | Wed Jan 5th 1898 Time | | Total hrs min | Thur Jan 6th 1898 Time | | hrs min | Friday Jan 7 98 Time | | hrs min | Sat Jan 8th Time | | hrs min |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 267 | Lampwick | 7 20 am | 6 00 pm | 409.45 | | | | | | | 7 20 am | 6 00 pm | 438 45 | | | | | | |
| 269 | Box # 1 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 271 | " # 3 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 272 | " # 4 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 273 | " # 5 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 276 | " # 8 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 277 | " # 9 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 278 | " # 10 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 366.15 | | | X |
| 280 | " # 13 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 281 | " # 14 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| 282 | " # 15 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | " | 357 | " | " | 367.30 | " | " | 372.45 |
| ~~283~~ | " # 17 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | 7 30 am | | 350 - | | | Y | | | X |
| 285 | " # 18 | " | " | 328 | " | " | 338.30 | " | " | 349.30 | " | 6 00 pm | 357 | " | " | 367.30 | " | " | 372.45 |
| 290 | Lead Glass | " | " | 277.30 | " | " | 288, | " | " | 299 | " | " | 310 | " | " | 320.30 | " | " | 325.45 |
| 291 | German " | " | " | 277.30 | " | " | 288, | " | " | 299 | " | " | 310 | " | " | 320.30 | " | " | 325.45 |
| 293 | Box # 15 | " | " | 156.45 | " | " | 167.15 | " | | 177.15 | 7 30 am | | 187.45 | " | " | 198.15 | " | " | 203.30 |
| 294 | " # 17 | " | " | 156.45 | " | " | 167.15 | " | | 177.15 | " | " | 187.45 | " | " | 198.15 | " | " | 203.30 |
| 296 | Steel Steel Aylsworth | " | " | 110.15 | " | " | 120.45 | " | | 130.45 | " | " | 141.45 | " | " | 152.15 | " | " | 157.30 |
| 297 | Edison Jr | " | " | 73.30 | " | 4 30 pm | 82.30 | " | | 92.30 | " | " | 103, | " | " | 113.30 | " | " | 118.45 |
| 298 | Edison Jr | " | " | 63, | " | " | 72, | " | | 82. | " | " | 93.30 | " | " | 104. | " | " | 109.15 |
| 299 | Steel Steel Aylsworth | " | " | 53, | " | " | 62 | " | | 72. | " | " | 82.30 | " | " | 93, | " | " | 98.15 |
| 300 | Steel Steel Aylsworth Box # 2 | " | " | 31.30 | " | " | 40.30 | " | | 50.30 | " | " | 61 | " | " | 71.30 | " | " | 76.45 |
| ~~301~~ | Steel Steel Aylsworth Box # 4 | " | " | 31.30 | " | " | 40.30 | " | 11 45 am | ~~45.15~~ | | | x | | | x | | | x |
| 302 | Steel Steel Aylsworth Box # 11 | " | " | 31.30 | " | " | 40.30 | " | | 50.30 | " | " | 61 | " | " | 71.30 | " | " | 76.45 |
| 303 | | | | | 5 45 pm | " | 15 | " | | | | | | | | | | | |

| 1898 | | Mon | | | Tues | | | Wed | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 7.00 am | 6.00 pm | hrs mm | 7.00 am | 6.00 pm | hrs | 7.00 am | 7.00 pm | hrs |
| 267 | Lamp Factory | | | 465, — | | | 476 hrs | | | 477 |
| 269 | Box 1 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 271 | " 3 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 272 | " 4 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| ~~274~~ | " 5 | " | 5.00 " | 382,15 | | | × | | | |
| 276 | " 8 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 277 | " 9 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| ~~278~~ | " 10 | " | | 366,15 | | | × | | | × |
| 280 | " 13 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 281 | " 14 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 282 | " 15 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 285 | " 18 | " | | 383,15 | " | " | 394,15 | " | " | 395,15 |
| 290 | Lead Glass | " | | 336,15 | " | " | 347,15 | " | " | 348,15 |
| 291 | German " | " | | 336,15 | " | " | 347,15 | " | " | 348,15 |
| 293 | Box #15 | " | | 213, — | " | " | 224, | " | " | 225 |
| 294 | Box #15 Sylvestol Duplicated | " | | 213, | " | " | 224, | " | " | 225 |
| 296 | Sylsworth | " | | 167 | " | " | 178, | " | " | 179 |
| 297 | Edison Gr | " | | 128,15 | " | " | 139,15 | " | " | 140,15 |
| 298 | Edison Gr Sheeted wool | " | | 118,45 | " | " | 129,45 | " | " | 130,45 |
| 299 | Sylsworth | " | | 107,45 | " | " | 118,45 | " | " | 119,45 |
| 300 | Box #2 Sheeted wool | " | | 86,15 | " | " | 97,15 | " | " | 98,15 |
| 302 | Box #14 Sheeted wool | " | | 86,15 | " | " | 97,15 | " | " | 98,15 |

**Notebook, Cat. 590, ca. 1896**

This notebook was probably used by Edison during 1896. The entries are undated. The book contains notes and several drawings regarding x-ray experiments. Included are rough notes concerning the results of various trials, and an observation by Edison noting that "its [sic] acts like atoms & Molecules." The pages are unnumbered. Approximately 60 pages have been used.

Roentgen —

No 1 plate —

No 3 Tube 45 minutes good general fluorescence .6 cells Celluloid protector spot in globe not very good — 45 min Exp

Results —

blackened plate — no bar visible

plate not as black as plate 3 —

No 2 plate No 5 Tube

Lamp at first appeared to have good Vac, then cathode came in after a while this diminished then got general florescence with very little cathode strong spot – ~~only~~ on holding Vac Lamp near No 5 tube tube appeared to give a discharge & flashed suddenly from blue to cream colored florescence poor light but bright spot with all appearances of very high Vac as shown by sudden appearance of whiskers on the wires

This is new —

Results — good picture no blockening of plate = single bar
fine other 2 less block - 45 minutes Exp

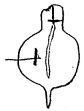
---

Plate No 3 — No 1 Buff -
high Vac Cream Colored
flor 1/2 hour Exposure celluloid
ground Scarcely any light in
tube but spot good 5 cells

Results —

plate blockened - can see central
bar would be good if plate
not blockened —

No 4 plate No 7 bulb – good
spot, 5 cells –



some Cathode,

Crimson coming out big disk –
Cathode ray point runs down to
spot & also 2 mins after slowly
then in 3 min globe full Cathode
+ strong bright ray running down
behind big disk, globe so full
light can't see ~~plate~~, spot,
Very crimson both sides big
plate. – only got 2" spark on Coil
25 minutes just few flickers every
approx – high Vac. 40 m
exposure

Results –

Cum acc bans – plate 6 broken

No 8 Tube - Silver Electrodes -
first put on Plumb - then Cathode
came on 2 minutes got bad
vac & finally Electrode melted
Neg had wires on wrong
make another

No 4 Bulb no 5 plate —
This is very low vac tube.
with 1/4 dia discharge across
~~tube~~ electrodes, dont see any
spot but whole glass
light bluish flor -
put on 11 am —
dont see any spot —
40 minutes exposure

Results white plate
no bars —

Hereafter we shall No the plates from No 1 up – with small label on glass side No 1 Plate New Series.

No 5 bulb – changed from storage battery to lamp bank 18 – 120 volt lamps – big spark on break. Sparks occasionally over 4" knobs of coil,

No 5 bulb gave white plate before no bars – started 2.15 –

Very fine flores at small terminal end. Spot is now blue not black

no cathode rays –

increased lamps in Lamp Bank to 22 at 2.20. Shows Cathode rays now - and fluorescence at top almost gone, but good flow at bottom, Cathode rays covers spot, don't see it,

Crimson coming in on big Electrode, & intensely blue at platina of small Electrode end, - the blue flow at bottom gone, Crimson behind big E as well as before -

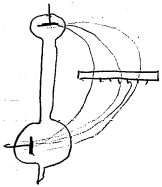
Cathode 223 nearly fills globe
not much blue flor except at top
where small plate sealed in —
225 — Crimson from big plate spread way
out, Cathode point runs to spot &
is whitish, spot not dark but blue
+ nearly obscured by Cathode point
229 — Cathode white going to spot
but thin. — 230 Cathode nearly
gone flickering flor crimson
front to big Elec — flor blue
increasing — spot blue —
The bulb at 234 is pretty near back
to where it started except
crimson is there,

242 - spark went across Rnobs
showing 105 bulb had reached
higher vac & it is now back to
where it started from - pure
blue flor all over with blue spot
245 = flor weakening & flickering
spot very blue - 246 - Vac so high
jumps across terminals
moved wires away flor comes back
very weak with some spots,
jumps across terminals still.
4 1/2 apart, off at 250 as
sparks jumped across terminal
35 minute exposure

Results splendid plate
no blackening - very strong
bars =

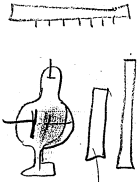
No 2 plate new series

special bulb —



Bulb put on & got apparently high Vac after sealing off went low except for 1st molard run at 10 minutes but it didnt get better, then put it back on pump — first then strong cremasy which spreads — then gradually goes over whole big Electrodes — the Violet through big Elec bulb & stirs up long tube with

Plate 2 and 3 both taken together




Clockwork

No 5 Tube, put Lamps on bank till sparked across terminals ~~any~~ on, 20 candle sparks 18 ~~23~~ lamps, spot black, good even flow in tube, with a few spots very blue flow — put on 8.25 pm —

with No 1 plate with bars which was so good the spot was blue — now black — (strange) see if it antennae —

Had plates 2 + 3 on for 1 3/4 hours;
bulb was inch from Clockwork -
+ clockwork was 3½ thick including
hourhand stem which nearly touched
plate Case — The plate No 2
was about 7 inches above top
of bulb & wire passed in path
rays - Toward end of Experiment
Could put 19 lamps on without
sparking across terminals
play Current not steady =

Reddish white Color –
Vac at this point has only lot of
fine pin holes – 24 lamps in
bank –

Light goes down the tube, –
Tried several times to get Vac
but couldn't, we fix seals + reseal

Results —

Clockwk plate only acqns

Strip plate perfect most

perfect got no blackening

just put on long double

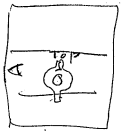
~~[illegible]~~ (a new one) got vac

rather quickly got blue

but Cathode in long tube

+ little in big tube —

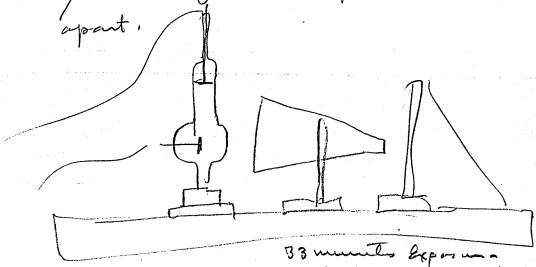
plate 4 - small discs -



10 mins Exposure ~~[illegible]~~ steel Elec
poor Vac all Cathode, crimson
Each disc, pbly no little of any
glass flor - bulb hot 24 cells -

No 9 Tube –

213 breaks second – poles of Coil — apart
started 12 12 — No of Lamps in bank
27 — sparkgaps 6" put Kembo 8"
apart.

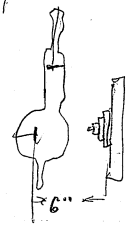


33 minutes Exposure
14" from tube to plate,

plate No – 8

good photo –

No 9 tube.




pyramid of pine wood
5 thicknesses

One hour exposure with candle bars of
Cement same as No 8 plate,

Analysis No. Sent to

From Charge to

Material

Remarks

Analyzed for Obtained Remarks

Signed

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. Received Completed

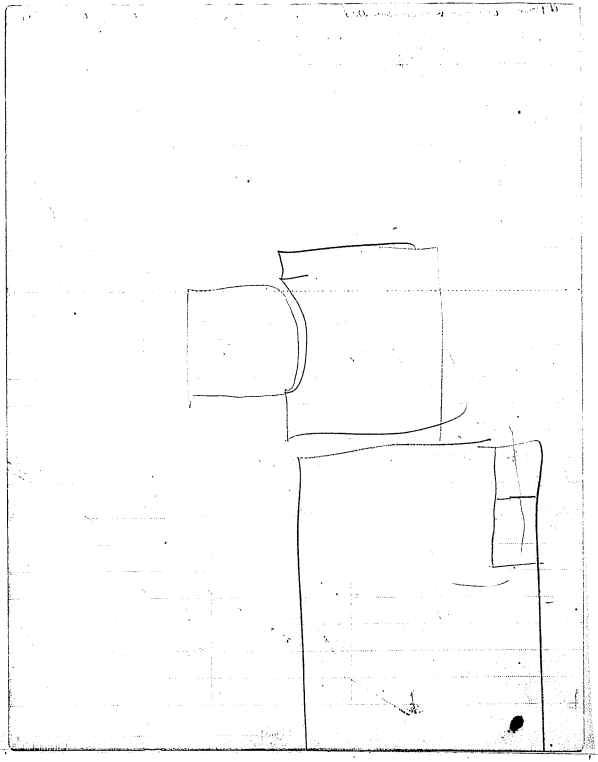
From Charge to

Material

Remarks

Analyzed for Obtained Remarks

Signed Chemist



Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

| Analyzed for | Obtained | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks .....

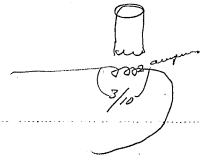
1/1000 2 4

| Analyzed for | Obtained | Remarks |
|---|---|---|
| 6/1000 | | |
| | | |
| | | |
| 1 000 | Wt 1/1000 1 mg - | Smt 6/1000 1 Surface |
| 2/1000 | Smt 8/1000 | 24/1000 4 surf |
| | | |
| | | |

Signed .....

C22J Chemist

The least commercial unit




4

1 volt.

2 am 177 –

33

53,1

2 – 3 — 39

444

4

1776

1,1,3

5328

1 6 178.

4c 1,2 2 am 1 volt 177.6.

2 Vol 2 am

1 ohm 1 am 1 Volt 44.4

~~2 volts~~ ~~2~~

~~4~~ ohm ~~1~~ " ~~2~~

6 Candles

1 amp 1 volt. 44.4

2 1 volt 177.6

44.4

4

4 / 177.6.

16

4 44

64

64

704.

1776

4

7104

15

444

4

6 / 1776

296

2 / 177.6

43

51.

Analysis No. Sent to

From Charge to

Material

Remarks

Analyzed for Obtained Remarks

Signed

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. Received Completed

From Charge to

Material

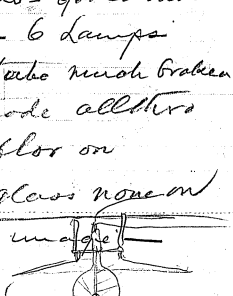
Remarks

Analyzed for Obtained Remarks

Signed

Chemist

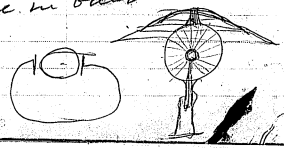
No 1 – 1 min – 6 cells – Sealed tube
when Current closed – 6 Lamps
air may Come out tube much Broken
heavy whitish Cathode all thro
bulb – very little flor on
thicker part of glass none on
thin part = ~~+~~ magic –



after plate removed current
kept on (6 cells) –

No 2 on at 12.34 – ~~Vale~~ tube
sealed – good bright flor, ~~very~~ sign
Cobalt Cathode in bulb

off 1235 –



Current Kept on till 1239.

No 3 (6 lamps) plate. on at 1239.
tube not quite sealed very fine
pin holes, some slight cohesion
Cathode but weak — flor bright
off 1240 — Current put on & kept on
till — 1245 - tube practically sealed
extremely small pin holes —

No 4 (6 lamps) on at 1245 - traces cohesion
Cathode still there, flor about
same brilliancy - off at 1246 —

Current on (6 lamps) till 1251 —
extremely fine pin holes in tube still,

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

$\frac{200}{600}$ $\frac{202}{606}$

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed ..... Chemist.

No 5 on at 1251. off 1252 — (6 lamps)
traces white cathode, trace purple
in tube, good bright flow —

Current on at 1252 —

No 6 — on at 1.02 pm (6 cells)
Condition about same as with No 5 —
on 1 minute off 10.3.

Current on at 103 — off at 1.13.

No 7 plate. (6 lamps) — on at 113 —
off 1.14 — Condition bulb + tube
about same as No. 5 — flow may
not be so bright —

at 1.15 – shut stop cock off &
put current on – Lamp now
disconnected from Vac –
in 2 minutes strong white
Cathode come in showing
reason why Vac got no better
after No 3 & 4 is that air comes
off glass or out of Electrodes
on connecting back to pump
at 1.19. large pins in tube
We now put on 12 Lamps –
good flow – some white all through
pin heads in tube small –
at 1.21. put on 14 Lamps –
white Cathode all through
but dim lots big pin heads

going down tube, 124.
pin heads now smaller going
down tube, dim Cathode fell
through bulb = when Current
taken off one side red hot
bright, other dull red,
We keep current off till tube
shows no pin holes — put Current
on, broke tube & Electrodes got
hot, We reduce Lamps to 10,
as 12 sparks slightly across outside
& small arc inside at seal,
slight arc at times on 10 Lamps,
12 lamps put on the little arc appears
inside, with 10 Lamps no white ray
with 12 it comes again & tube

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed ..... Chemist.

Breaks a little. Tube busted

We now put on the old bulb which we took from picture. it has blackened run on Electrodes & glass of globe is little tinted. ——

Run to solid tube. then at —— put on 6 Lamps =

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed ..... Chemist

When 1st put on 2.55-pm- no flor, dim
white, ~~on~~ with large pinheads
coming down - on other lamp
with bigger pinheads it was
bright florescent with very
little white, at 3 oclock -
florescen comes all over
but not bright & whole
globe full dim white
while tube has only fine
pin heads 6 lamps on
at 3.03 pm 8 lamps on
tube breaks slightly more,
dim white although globe
& flor not bright

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed ..... Chemist.

C30

at. 3 19 tube has very few fine pinheads
flor ~~sta~~ poor, very slight dim white
at Electrode, 8 Lamps. —

added 2 lamps making 10 lamps
dedut break any or scarcely any

florescence came up twice as bright,
no apparent white, scarcely
perceptible pinheads,

added 2 more lamps making
12 on, shows dim white at
one Electrode only broke tube
very slight

Added 2 lamps now 14 on flor
bright dim white at Electrodes
back of face, dedut appreciable
break the tube

Signed,

Chemist

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

| Analyzed for | Obtained | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| 45 ) 2000 ( 440<br>180<br>20 | | 440 ) 7700 ( 17<br>440<br>3300<br>3 |

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks 350 – 300 300

70 C
25 nick
17 Coal –
7 ocl –
81 Wages –
200

440. ) 35000 ( 81
3420
8

| Analyzed for | Obtained | Remarks |
|---|---|---|
| 40 | | |
| 66 % | $27 coal | |
| 3 402 – 80 | 510 Coal – | |
| 322 | | |
| 25 | | |

Signed ..... Chemist.

250

18 ohms

15 ) 33000 ( 2200
30
30

14 ) 250 ( 18
14
110
112

250

120
444
480
480
480
5328

120
20
2400

) 5320

5320

2 ) 5320
2650

1 ohm on 120
1/2 ohm 120

120

532
42
106
1284
2234

Analysis No. Sent to

From Charge to

Material

Remarks 55 40 220 —

Analyzed for Obtained Remarks 31

20

19

37

2

78 —

~~1050~~ 1250 —

25 1300

109 — 175

8

12 000

5

10

78

31

250 / 109

250

30

Signed

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. Received Completed

From 6 35000 300000 / 280000 18 Charge to

Material 150 — 12000,

15000

Remarks 50 / 150 150000,

300 — 150

Analyzed for 3 Un Obtained Remarks

19 — 1 20

31

Signed

Chemist.

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

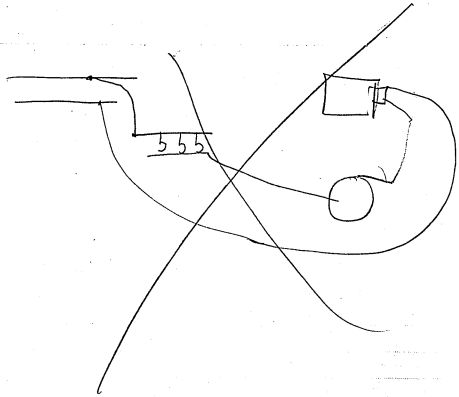
From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed ..... (33) Chemist.


555

Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

Signed .....

Chemist.

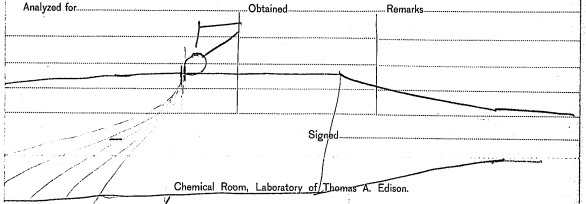
lysis No. Sent to

From Charge to

Material

Remarks

Analyzed for Obtained Remarks



Signed

Chemical Room, Laboratory of Thomas A. Edison.

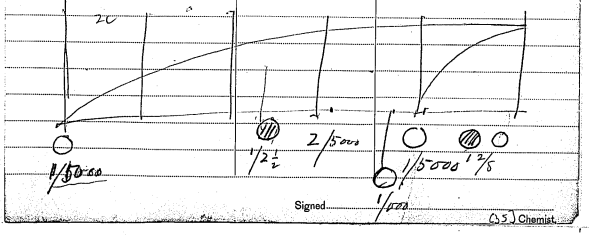
Analysis No. Received Completed

From Charge to

Material

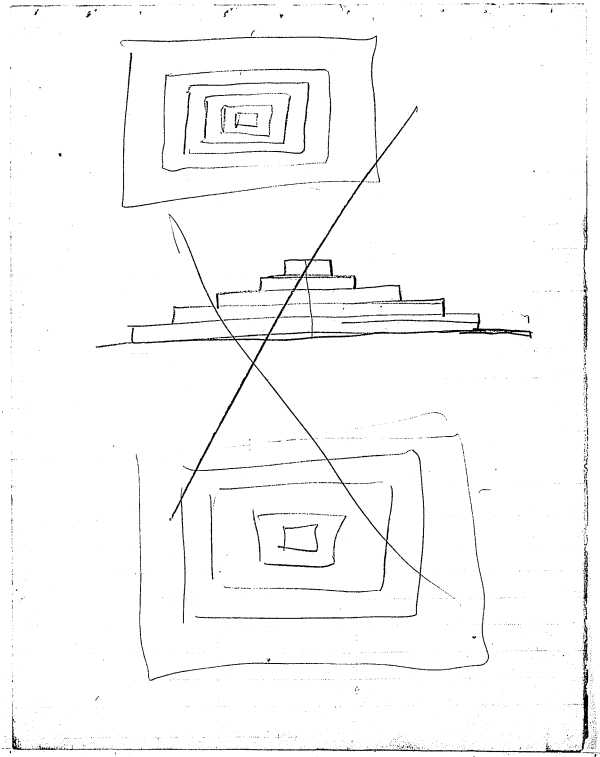
Remarks 100 feet min —

Analyzed for Obtained Remarks



Signed

(55) Chemist.



Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

| Analyzed for | Obtained | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

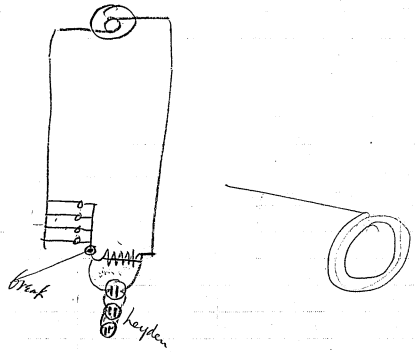
From ..... Charge to .....

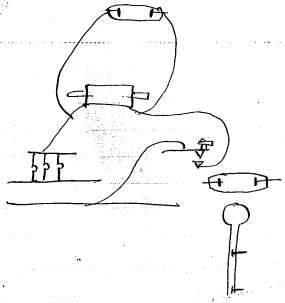
Material .....

Remarks .....

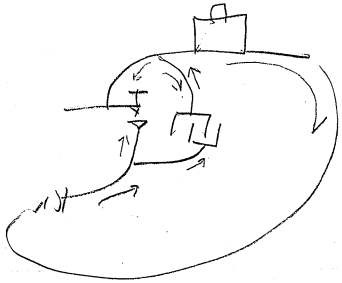
| Analyzed for | Obtained | Remarks |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

Its acts like atoms & Molecules

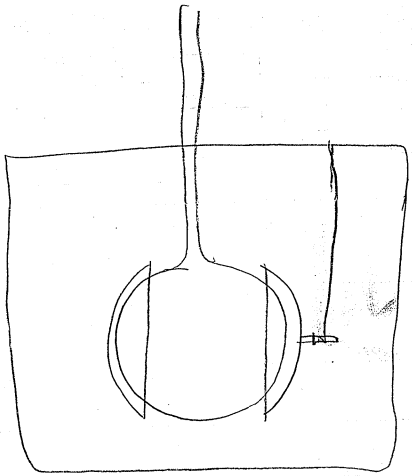

break
Leyden

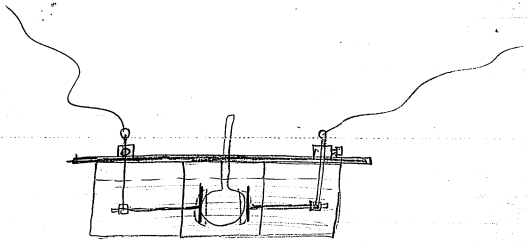


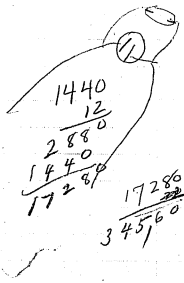
Try if dry plate fluoresces in fluoroscope



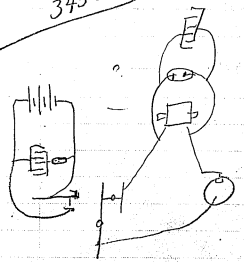
The statement.



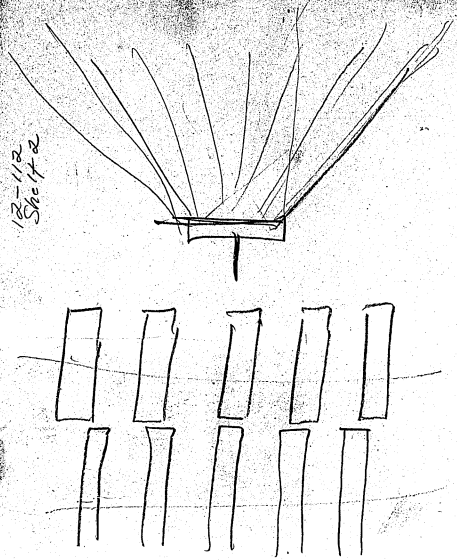





345000



12-112
Sho 14 2



Analysis No. ..... Sent to .....

From ..... Charge to .....

Material .....

Remarks .....

Analyzed for ..... Obtained ..... Remarks .....

| | | |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |

Signed .....

Chemical Room, Laboratory of Thomas A. Edison.

Analysis No. ..... Received ..... Completed .....

From ..... Charge to .....

Material .....

**Notebook, Cat. 585, 1898-1899**

This notebook covers the period August 1898-January 1899. It was used primarily by Edison, but also by an unidentified experimenter (possibly H. M. Phillips), for notes and drawings regarding meter experiments. The book contains 201 numbered pages, most of which are blank.

Blank pages not filmed: 54-201.

Cat. 585



50
87

Plating Solutions
New Deposit Meter

# Test Plating solutions

Aug 30 Nos. 9 & 10
Ag Sulphate in Ammonia
Time ... 3 hrs.
Current ... 10 Mill-amperes

| Init wts. | Final wts |
|---|---|
| #9. 2.557 | 2.6735 |
| #10 - 2.5678 | 2.4719 |

Gain plate - 3.883
Loss plate - 3.196

Remarks
Warty - come off - Edges - hard - long warts easily detachable
Loss plate coated with bad silver
N. G.

Aug. 30 Nos. 11 + 12
Fluate silver
Time - - - 3 hrs
Current - - - 10 Mill-amperes

| Init wts. | Final wts |
|---|---|
| #11 ... 2.5544 | 2.7740 |
| #12 ... 2.4705 | 2.3540 |

Gain plate - - - 7.320
Loss " - - - 3.550

Remarks
Gain - Fluate Silver
Warty - black globules - N. G.
Loss - Brownish - N. G.

Aug 30 Nos. 13-14
Ag Carbonate & Ammonia
Time - - - 2 hrs. 6 min.
Current - - 10 Mill. amperes

| Initwants | Final wts |
|---|---|
| #13 - 2.1070 | 2.2658 |
| #14 - 2.6230 | 2.4847 |

Remarks
See next Page

Aug 30 No. 13.14

Saucers #12 - was dirty + brownish back-ground

Loss plate in old Equinde plate cant tell about it

N. G. anyway

Silver Carbonate in Ammonia gathers a brown sediment in bottom -

Aug 30 No. 15-16

Chlorate of silver

Time: 2 hrs. 7 min. 10 Mill amperes

| | Initials | Final wts |
|---|---|---|
| #15 - | 2.3700 | 2.4559 |
| #16 - | 2.7482 | 2.6632 |

Gain plate 3995

Loss " 4047

Remarks

Chlorate silver in water turns black top of liquid gathers a film from action of light or air which is bright silver light

Chlorate gain plate -

No warts perfect

Loss plate perfect -



10 Mil amperes one hour

Notes -

Solution of Chlorate of Potassium and Nitrate Silver in water plating dense and fine, smooth, perfect and adherent, plating off plate perfectly even fine grain - no pitting - G 3995 L 4047

Sulphate Silver in Ammonia - not a great amount dissolves seems less soluble in Nitly than most silver salts, Deposit plate warty, comes off from edges, easily detachable warts Loss plate coated with sulphate of silver crystals - NG

G 3883 L 3196 -

Picate silver in water - got too much picric acid Crystalized out in cell - Gain plate warty black globules, Loss plate Brownish NG

G 7320 L 3850

Carbonate of Silver in Ammonia - warty Gain plate has brownish ~~black~~ background. Loss plate being one previously used Cant tell anything about it - NG

G 7561 L 8014

Chlorate Silver Nitrate Silver with Ammonia Gain plate somewhat warty but thinks warts not very detachable Loss plate good but looks as if something had dissolved but leaving hazy spongy surface

G 3890 L 4242

Phosphate Silver in Glacial Phosphoric Acid Gain plate spiral worms scratches off with finger nail - also darkened - Loss plate perfect.

G 3892 L 4126

Silicofluoride Silver & Nitrate Palladium
Large isolated warts on gain plate also
red crystals all over plate Loss plate full of
red crystals & brownish – G 5390 L 3715 –

Arsenate of Silver in Ammonia, Bright
Continuous deposit not detachable but wavy
should say it was perfect Loss plate has a
fine grain but filamentary, spongy but OK I
think – G 4200 L 4150

Chromate of Silver in Ammonia Warty on
gain plate Crystals rather adherent. Loss
plate good – G 4130 L 4225 –

Bichromate of Silver in Ammonia, Gain plate
Warty but adherent. I think loss plate
good possibly slightly spongy
G 4180 L 4085 –

Arsenate of Silver in arsenic acid
Millions of curled special filaments – seems to
be adherent plate dark – Loss plate
perfect, G 4675 L 4125 –

Orthophosphate Silver in Ammonia
gain plate bright, not warty good
Loss plate not smooth Eaten away
in lines probably OK –
G 4000 L 4153

Oxalate Ag in $NH_4$
Gain 4100 L 3915

Fluoride Ag in Nitrate K
G 3950 L 3960

Acetate Ag in $NH_3$
G 3960 L 3915

Iodate Ag in $NH_3$
G 4100 L 3915

Perchlorate Ag in $NH_3$
G 4050 L 3965



Nitrite of silver in Nitrite of Potash very fine surface on gain plate, its dark when viewed in one direction bright when viewed in another direction its a very perfect deposit, finger nail causes surface to become bright — loss plate fine surface but apparently spongy —
G 4315 L 4375

Notes on appearance of Solution

Silicofluoride Ag in Nitrate Potash affected by light, turns black.

Chlorate Ag + Nitrate Ag in water turns black on top to a silvery film finally the whole of the jar becomes coated with a bright silver film — quite adherent & perfect

Silver Carbonate in Ammonia gathers a Brown sediment in bottom of jar —

Orthophosphate of silver in Ammonia gathers a whitish sediment in bottom of jar —

Chlorate Ag Nitrate Ag in Ammonia gives white sediment in bottom of jar

Sept

at 850 pm put two new silver plates in a solution of Chlorate of Potash + Nitrate of Silver & put on Current of 10 milliamperes which is to be run for 60 minutes for Examination under the Microscope to verify previous Experiments

Chlorate of Potash does not precipitate Nitrate of silver probably for reason that Chloric acid has more affinity for K than Nitric acid hence it is a mixture yet I thought I got a precipitate when I made the first solution the test of which is recorded on page 3 –

The old liquids used in previous experiments have been filtered + water added + to those which had ammonia in fresh has been added — immediately on filtering the jars were placed in black paper covers so light does not strike them contemporaneously — I have also made a number of new solutions —

Took plates out, ~~[illegible]~~ Gain plate large warts 1/16 apart – Loss plate perfect – This is probably due to weak solution – Next experiment will tell –

Started new pair plates in stronger solution of Nitrate of silver + saturated solution Chlorate Potash – On at 1010 pm –

I shall shake solution at times to give circulation –

Gain Electrode same warts NG –

In looking over old plates I notice little Arsenate Ag in Ammonia gives good Gain + lose plates

also Bichromate Ag in Nitry
" Chromate Ag in Nitry



I now make some oxide Ag by precipitating Nitrate Silver with KHO filter + dissolve in some old Chloric acid I have had in Lab for long time it is probably very weak - it however dissolves all the oxide readily leaving only a small amount of which precip. not so milligrms -
I think the solution has considerable free acid. may be a good deal as I used clean acid with very little water as I thought it very weak - We put in new electrodes and started at 11 15 pm -
Kellogg must have mixed Electrodes + called Electrodes which were in some unknown ~~Acid~~ Solution by name of Chlorate Electrodes. This renders it necessary to go all over the Experiments again +

~~Gain~~ Gain plate very long beautiful crystals entirely unlike any have seen - no good for us

At 1158 put in old solution with new electrodes Solution Arsenate of Silver dissolved in Ammonia 10 milamperes -
at End hour look out plate, even deposit but it seems to be very small notice shrinking -
I now at 1 am put it back and put on 20 Milamperes - at 130 took it out + it seemed to have gained but still it looks as if there was very little plating it looks so much like the original plate except it is spangly (12) bright places there is no warts or other things Extending outward at 133 put it back again with 20 Milamperes

2 am took it out again dont seem to change. I think it is plated for as a good plating
at 2 am Reversed the Current –
I may mention that it (is) the plating is different from what it plated before –
~~Put it back~~ was on till 4 20 am – looks plate OK – gain plate perfect – I notice some microscopic black spots very fine on gain plate – Solution is closed from light – took it out & looked at it its ~~decomposition~~ slightly brown milky with a little sediment in the Gallon –
It looks as if a stronger solution with our without excess of $NH_4$ would do Gallon, perhaps just a double salt of Ag & $NH_4$
without any free ammonia is what I wanted to obtain clean solution without black spots –

At 5,34 AM. Put 17 cells in series with 10 Milamperes to G2 run one hour + then have electrodes Examined –
All the Cells are in paper Covers + caps to keep out light + prevent evaporation –

Arsenate Ag in $NH_4$
Both the G + L plates are good – I notice some black specs on plates perhaps due to fact that solution is not as clean as when first filtered –

Chlorate of silver in NH

Bichromate Silver in NHy

G close dingy specimen - not detachable, more on one part plate than the other. Loss plate fair but not evenly cat. shows rolling marks in Rubber - finger wipes something away & reveals dirty white - this makes it bad -

Acid Dichlorophthalic ~~NHy~~ Nit Silver Sol part

G plate blue no crystals even blue but rub off - pale yellow Loss plate good blue there is a faint dirt rubbed off then its dirty white - This dirt may be in the silver ?

Dithonic acid combined with Potash to make Dithoniate of Potash + then precipitated with Nitrate Silver to ~~give oxide silver~~ precip dissolved in NHy - Gain plate dark even wont rub or wash but there are black points extending outwards, must look at this again - Loss plate pretty even finger rubs off nothing its white & looked bad ok if G plate was ok (my reversal)

Nitrate Silver & picronitric acid

G plate great crystals extending outwards - L plate had chemical crystals of picronitric acid on it - its not very good -

Monobromoacetic acid + Nit silver Saturable part

Both plates coated with a precip - solution free of precip

Acid Dichlorophthalic + Nitrate Silver NHy ~~Sol part~~

G plate fine cubic crystals think attached well but with more placing would probably grow to be dichroic - Loss plate has some dark crystals on it - & dark spots that wont rub off those which chemicals I have noticed in Silver Loss plates doing so in this solution merely free + notice part is orange) & appear to grow wonderfully probably so - Loss plate kills this solution -

Citrate Silver in NHy

Both plates good Gain plate no sign of crystals L plate tinted slightly + very small amount rubs off - but think its in the silver,

Nitrate Silver & Trichloracetic acid
G plate very peculiar crystals, mirror - very easily detachable
L plate also colored with a precip - L plate colored with precip

Permanganate Potash - Nitrate Silver - clear solution -
Ng + Eat off wire - deposits chocolate crystals -

Malic Acid Ag in NH4
L plate good - G wants like nuggets + only in spots - and along the edges due to rubbing off color also don't think it will do -

Permanganate Silver in Ammonia -
Thin coat of peculiar flat crystals on grain plate
detachable - L plate full ferric oxide color spots -

Tungstate Ag in NH4
G plate good - fine - Loss plate good fine - some darkening
& diff rub off on L plate - very little, must be silver -

Nitrate Potash & Nitrite Potash
G plate dark ~~was~~ don't rub off - no sign of crystals - L plate
can rub something off - not very thick, may be the comparison
in silver or possibly the dark grain plate is dark - stained except
with this solution -

Bromate Ag in NH4
G plate cubic crystals probably detachable, L plate got
black specs - ~~not~~ very slightly, but, not rubbed off -
This solution probably not good

Pyrophosphate Ag in NH4
Both plates tinted a dark in streaks, don't rub off
G plate square crystal wanted probably rub off -
This solution probably not good -

Chromate Ag in NH4
Grain P good - fine closely clinging leaflets not detachable
Loss plate not even - after washing the most dried white
fingers rubbed off the darkening matter. This is bad -

Arsenate Ag in Ammonia is good

Tungstate of Ag in Ammonia good

Citrate of Ag in Ammonia good

Nitrite Ag + Potash Nitrite - may possibly be worked up good

Further Experiments -
Started 1.22 with 10 milliamperes

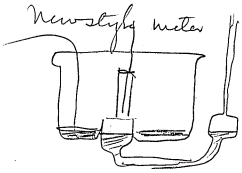
Borate of Silver in Ammonia
G plate dark all over no crystals dont rub off
may be plated finely divided silver hence black - L plate
ok - faint tint rubs off by fingers - Look into this Sol

Tartrate Silver in Ammonia
Both plates good - no sign of crystals on gain plate looks
just like original - perhaps the light on first has taken all the
silver out - L plate off color rubbed off by finger
Look into this

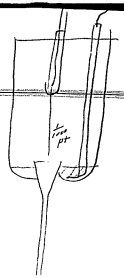
Tungstate Silver in Ammonia strong solution should
say 3 times more silver than in 1st Experiment
G plate plates same as weak solution except
that it has ~~some~~ light yellow spots also dark shade
can see infinitely minute glistening plates fast or
close down to plate its ok & chunky. The yellow
may be action on impurities - L plate fine good
just a little tinted rubs off by finger -
a solution that intermediate probably be good
also try more or less Nitrite or no Nitrite may possibly double salt -

Phosphotungstate Silver in Ammonia
G plate little dark dont rub off no crystals
plate seems as original notice no clag when
washed plate in water perhaps silver adherent
way in filter - plate good - little that rubbed
off By finger it looks as if this is impurities in
~~Sil~~ Silver - Investigate this solution -

Electrodes used had previously been used &
then put in Nitric acid to clean off deposits
Ok under Microscope with low power -




Solution No 1 70 cc water. 6 grammes
Cyanide of Mercury. stir well & there will
remain a residue put in ... grammes of
Merck Cyanide Potassium, filter till water
white clear -




Solution Mercurous Nitrate, slightly acid —
2600 ohms in circuit ~~1 cell Daniell~~ —

| | | |
|---|---|---|
| Res with 1 cell Daniell — | | 19 |
| " 2 | " | 17 |
| 3 | | 17 |
| 4 | | $16\frac{1}{2}$ |
| 5 | | $16\frac{1}{2}$ |
| 6 | | $14\frac{1}{4}$ |
| 7 | | 14.8 |

| | | | |
|---|---|---|---|
| ~~Res~~ with 7 cells + | 2000 ohms | Res | $15\frac{1}{2}$ |
| | 1500 | " | 15.3 |
| | 1000 | " | 13 — |
| | 800 | | 15.3 |
| | 600 | | 15 |
| | 400 | | 15 — |
| | 200 | | 14.8 |
| | 100 | | 14.5 — |
| Back to 1 cell + | 2600 ohms | Res | 19 |
| " | 12600 | " | 27 |

two platina wires not amalgamated placed in Mercurous nitrate with little free acid. no Hg at Either pole—

| | ohm | Res |
|---|---|---|
| 1 cell | 1000 | 1670 |
| " | 2000 | 2850 |
| | 3000 | 3850 |
| | 4000 | 4800 |
| | 5000 | 5800 |
| | 6000 | 6700 |
| | 7000 | 7600 |

Same with one pole touching a globule of Hg

| | ohm |
|---|---|
| 0 res | 10.5 |
| 1000 | 11.5 |
| 2000 | 12.5 |
| 3000 | 14.0 |
| 4000 | 15.0 |
| 5000 | 16.0 |

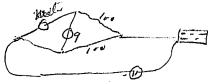
Standard Solution HgCy Kcy 1500 cc $H_2O$ 100 grms HgCy 100 grms KCy — to which is added an additional amount of KCy being running 60 hours on 5 Milamp — Hg rather dirty at bottom + dark sediment there.

1 cell A

| | |
|---|---|
| 0 Res | 92 |
| 100 | 135 |
| 200 | 173 |
| 300 | 205 |
| 400 | 239 |
| 500 | 270 |
| 800 | 350 |
| 1100 | 420 |
| 1400 | 490 |
| 1800 | 570 |

Standard Solution 1500 cc $H_2O$ 100 grms cadmium Cy Key

Cell been running several days or formally used a silver Electrode in 12 hours also used aluminum Electrode in 15 minutes 12/1000 pt wire –




| O Res | ohm |
|---|---|
| 200 | 182 |
| 300 | 460 |
| 400 | 565 |
| 500 | 670 |
| 600 | 780 |
| 700 | 690 |
| 800 | 750 |
| 900 | 795 |
| 1000 | 810 |
| 1100 | 840 |
| 1200 | 840 |
| 1300 | 840 |
| 1400 | 855 |
| 1500 | 870 |
| 1600 | 900 |
| 1700 | 940 |
| 1800 | 960 |
| 1900 | 995 |
| 2000 | 1035 |
| | 1070 |

Yellow Nitrate Hg from Lamp-factory Cutting Hg + free $HNO_3$ — been running about 60 hours
12/1000 pt Elec - Sodium Amalgam Cathode, 1 cage Band

| | Res |
|---|---|
| 0 Res — | 4.75 |
| 100 | 5.5 |
| 200 | 6.25 |
| 400 | 7 00 |
| 500 | 8 05 |
| 600 | 9 |
| 700 | 10 |
| 800 | 10.5 |
| 900 | 11.5 |
| 1000 | 12 |
| 1100 | 13 |
| 1200 | 14 |
| 1500 | 16 |
| 1800 | 19 |

Saturated Cold Solution HgCy only
12/1000 pt Elec cage

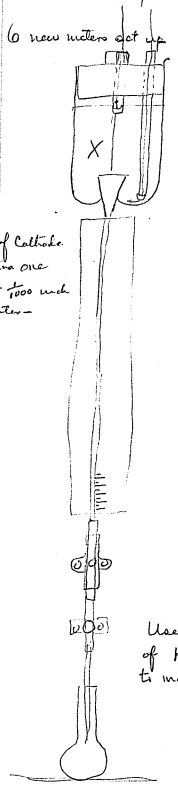
| | |
|---|---|
| 0 Res | 2750 |
| 1000 | 3700 |

Yellow Oxide of Hg dissolved in Hot KCy
washing Else, quite strong solution only
diluted ~~to~~ to prevent Crystallization,
pbly be Oxycyanide.

| | ohm |
|---|---|
| Res 0 | 295⁻ |
| 100 | 435⁻ |
| 200 | 570 |
| 300 | 660 |
| 400 | 620 |
| 500 | 500 |
| 600 | 400 |
| 700 | 350 |
| 800 | 330 |
| 900 | 325⁻ |
| 1000 | 315⁻ |
| 1100 | 315⁻ |
| 1200 | 325⁻ |
| 1300 | 330 |
| 2000 | 350 |
| Res 0 — | 305⁻ |

Wednesday Janey 4 99

6 new meters set up




length of Cathode of platina one inch & 1/1000 inch diameter—

With ·02 Shunt.

1000 ohms resistance in cell circuit
10 lamps 3·1 watt per candle 110 Volts
Current full load 9/100 of Milliamperes
Loss in shunt 10 lamps 16/100 of 1%
" " 20 " 64/100 "
deposit of Mercury per hour with full load - 6·78 milligrams
of 90 full hours month length Mercury Column 10 lamps basis - 61 milligrams or 1½ inches on No 2 meter scale — with ·04 shunt double this — which is about right.

Scale 40 division to the inch — Thermometer tubing, supposed to be 15/1000 bore but varies as tests show —

| | | | |
|---|---|---|---|
| No 1 Meter | ·84 | deg to 1 | milligramme |
| 2 " | 1·02 | " | " |
| 3 | ·99 | " | " |
| 4 | ·845 | " | " |
| 5 | ·83 | " | " |
| 6 | 1·02 | | |

Used water in X to which 3 or 4 drops of $HNO_3$ Specg 1·2 Merck Reagent was used to make mercury column clean

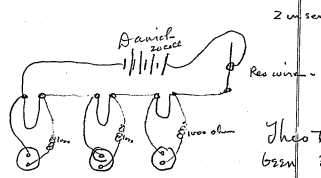
Meter No 4 Has an initial Hg Column - of 15 deg - E & P - 16½ ✓

Meter No 2 13 Phillips - 13 Edison 16 | 3

No 3 14 Phillips 14 full Edison. 17 3/4 3 3/4 @ 7½

Put Current on at 11 45 am Jany 6th = 16 1/4 hours

Amperes. Four,




Theo test should have been 30/100 ohm 25/100

Shut off Current 6 pm Jany 6
Current on 8 am " 7

No 1 taken out because during night smack initial Column went down below + we couldn't get it so put No 4 in place at 10 40 - AM - 7½ Initial Column 15 degrees -

New test with solution of white salt

dissolved in water without scarcely any acid. ~~[illegible]~~ filtered + put in bottle with free Hg in one days crystals deposited in bottom bottle left at that way for a week then chilled it down to 43 nothing deposited filtered This is the solution used on test it measured 14 on 600 ohms with 1 cell + 27 on 12600 ohms 1 cell — think there was some action on Hg —

| | Edison | Phillips |
|---|---|---|
| No 4 Meter initial Column | 23 | 22.5 |
| " 2 | 31.6 | 31.5 |
| " 3 | 41 | 41 |
| 4 after about 8 hours — Phillips failed keep time | 25.5 | 25.5 |
| | 34 1/2 | 34 |
| | 42 1/2 | 42 1/4 |

West end this morning 8 am January 10/99

| | | | |
|---|---|---|---|
| No 4 Shunt gave on Volt meter | 7.8 | division | |
| No 2 " | 7.8 | | Cockenwelly Volt |
| " 3 " | 9.4 | | Meter measuring |
| | | | 1/100 Volt — |

If Voltmeter is correct the deposit per hour for the various ohms be for

| | measured | | measured — | |
|---|---|---|---|---|
| No 4 | .568 | milligram | .284 | milligram |
| " 2 | .568 | " | .284 | " |
| " 3 | .687 | " | .343 | " |

No 4 1 deg 2 hours 4 mm No 2 1 hour 43 No 3 1 hour 26

Read Meter at. 4.55 pm Jany 10 99

Having been on for 8 hours 55 minutes

| | Edison | Phillips |
|---|---|---|
| No 4 | 28.5 | 28.5 |
| 2 | 37.8 | 37.75 |
| 3 | 47. | 47 |

Note (tapped) electrode to get globules off —

Reading at middle scale -

| | Edison | Phillips |
|---|---|---|
| No 4 | 28.5 | |
| 2 | 37 | 36.75 |
| 3 | 45.75 | 45.5 |

6.20 pm -

Reread meters in middle focus -

| | Edison | Phillips |
|---|---|---|
| No 4 | 29.3 | 29.3 |
| " 2 | 38 | 38 |
| " 3 | 46.5 | 46.75 |

3 shunts in series - giving ~~[illegible]~~ of 26.8/100 of Volt. The 3 meters being multiple arcd across the 3 shunts, 4 amperes on —

Shut off current 11.30 P.M. 4.40

Read meter for deposit from 6.20 pm till 11.30 pm —

| | | Edison | Phillips |
|---|---|---|---|
| No 4 | | 37.5 | 37.75 |
| 2 | | 47.5 | 47.5 |
| 3 | | 54.5 | 54.25 |

Reading Corrected to tubes 9.7 milligrams
9.3 "
*8.0

Theoretical 9.7

* something wrong with this meter it never read right.

Started 11th 99 at 8.15 AM — above is reading

Read at 6.35 pm — shook globules off

Readings were

| | | Edison | Phillips |
|---|---|---|---|
| No 4 | mean 55.72 | 55.95 | 55.25 |
| 2 | 69.12 | 69.[illegible] | 69.25 |
| 3 | 73.75 | 74 | 73.5 |

No 4 gained 18.1 deg
2 27.6
3 19.4

Theoretical by formula 20.7

Theoretical by Watson 25

Reading Corrected for tubulation

No 4 21.5 milligrammes
No 2 27.2
" 3 19.6

Theoretical ~~20.7~~ but our tubes must be incorrect

Shut off current 11-40 PM —

Read above at 8 am —

Watson gives 24.4 / 100 Volt
Bennett 26.8
Rowland gives 20.7
Wood 19.6 —
by tables Bennett

Reading from 11th = see last page

| | Mean | Edison | Phelps |
|---|---|---|---|
| No 4 | 65.07 | 65.15 | 65 |
| 2 | 79.1 | 79 | 79.2 |
| 3 | 82.25 | 82.5 | 82 |

Corrected for lubrication

| | |
|---|---|
| No 4 | 11.12 |
| 2 | 9.78 |
| 3 | 8.58 |

Correct deposit for 2 shunts
2.36 milligrams

Started 12th '99 8-45 A.M.

Read at 620 pm

| | Mean | Edison | Phelps |
|---|---|---|---|
| No 4 | 82 | 82 | 82 |
| 2 | 99.87 | 99.75 | 100 |
| 3 | 101.41 | 101.33 | 101.5 |

Corrected for lubrication

| | | |
|---|---|---|
| No 4 | 20. milgrms | Theor'l P of all our meters are given at – |
| 2 | 20.3 | 22.4 |
| 3 | 19.4 | |

Shut off current 6-35 P.M.
Current on 1-13-99 8-20 A.M.

Jan. 13 99

Current on 8-20 A.M.

off at 6 55

| | mean | Edison | Phillips |
|---|---|---|---|
| Readings | 100.72 | 101.25 | 100.2 |
| | 123.25 | 123.00 | 123.5 |
| | 123.50 | 124. | 123.00 |

Corrected for tabulation

| | | |
|---|---|---|
| No 4 | 22.1 | Theoretical |
| 2 | 22.9 | 24.8 |
| 3 | 22.3. | Written ok. Something wrong while its drop down. |

Jan 14 99.

Start 7-45 A.M.

| | mean | Edison | Phillips |
|---|---|---|---|
| No 4 | 118.6 | 118.7 | 118.5 |
| 2 | 145.37 | 145.75 | 145 |
| 3 | 145.65 | 145.5 | 144.8 |

Read at 6

Correct for tabulation

| | | |
|---|---|---|
| No 4 | 21.2 | Theoretical |
| 2 | 21.7 | 24.2 |
| 3 | 22.3 | |

3 | 65.2
21.7 3

| | | | |
|---|---|---|---|
| Reading No 4 from table below | | 119.5 E | |
| | 2 | 147 Philip | 147.8 E |
| | 3 | 146.5 | 146.5 E |

Latest Constant
249 Melghr hour
~~Not Copied~~



We let Hg column run out & put it back - to check =

Current off at 6-22 - PM -

Jan 16 1899 -

Current on 8 - A.M -
Current off 10-50 A.M -

Started on 1/2 ampere through the shunt at 1115 am 16th 99 -

| | |
|---|---|
| No 4 Read constant. | 104.4 |
| 2 | 152.8 |
| 3 | 153.4 - |

take off ten minutes from time as we had Current off 10 min -

Current disconnected at 620 pm

| | | Mean | Edson | Phillips |
|---|---|---|---|---|
| Column Read | No 4 | 106.75 | 106.5 | 107 |
| | 2 | 154.135 | 154.7 | 154 |
| | 3 | 155.45 | 155.7 | 155.2 |

Correct for Calibration

| | |
|---|---|
| No 4 | 2.78 |
| 2 | 1.52 |
| 3 | 2.16 |

7 h 5 minutes

4.02



Jan. 17 1899.

Current on at 8-5 A.M. —
stopped 5.40.
4 amperes —
Checked one meter with a
Silver CCCC —
No 4 with silver cell in
Corrected 23.9 milpmi

| Edison | Phillip |
|---|---|
| 129. | 127 |

9 gm on Silver 11.6 mg
Loss 12.7. "

Mercury Calls for 12.8 of silver —

Jan. 20 1899 –

3 Shunts –
4 Amp –
Silver cell with #4 meter –
Start meter #2 & 3 at 8 A.M. –
Start meter #4 9.20 A.M. –
Zero reading #4 #2 #3 –
21.0 41.4 37.3

| | | | |
|---|---|---|---|
| Reading at 9 AM – | 39.2 | – | 1.9 |
| " " 10 " | 41.8 | – | 2.6 |
| " " 11 " | 44.4 | – | 2.6 |
| " " 12 | 46.6 | – | 2.2 – |
| " " 1 P.M. – | 49.0 | – | 2.4 |
| " " 2 " | 51.4 | – | 2.4 – |
| " " 3 " | 53.7 | | 2.3 |
| " " 4 " | 55.4 | | 1.7 |
| " " 5 " | 58.5 | | 3.1 |
| " " 6 " | 60.7 | | 2.2 – |

Voltage on shunts by Weston – ~~35.4~~ Weston 35.34
" " " by Clark Cell – 35.2
Wt. of Zn – per hr. Hg – then – #2 2.48 #2 2.43
" " " " Ag – " 1.50 2.57
" " " " 1.36 2.48
" " " " 1.29
Weight of silver electrodes at start – 224.4 - 97.8
" " " " finish 213.4 - 98.9
Gain in Wt. per hr. from #4 2.38 #2 – 2.51 #3 - 2.36
" " " silver – 11.1 #4
" " " per hour #4 #2 #3
" " " " " silver – 1.28
Voltage on meter #4 Clark cell .339

Calculations made with Clark Cell reading which are 32/p above meter –

Current off 6 –

Jan 21 1898 —

Three meter cells in series with Ag. Cell. 1 1000 ohm coil, three shunts in series as before —

Current 0.1 amp —

| | #1 | #2 | #3 |
|---|---|---|---|
| Meter reading at start. | | | |
| " " " finish | 1.1 | 1.2 | 0.8 |

Start 7.45 AM. 6.40 P.M —

Stop — ~~Read~~ —

Jan 22 3 —

Read 8 A.M —

## UNBOUND NOTES AND DRAWINGS

The loose technical notes and drawings comprising this collection relate to a variety of subjects, including the phonograph, electric lighting and power, ore milling, batteries, the kinetoscope, telegraphy, telephony, and x-rays. There are also documents pertaining to various other projects, such as a proposed cotton picker. Many of the notes and drawings are by Edison. There is also material by Charles Batchelor, Arthur E. Kennelly, John F. Ott, and other associates, as well as notes by various laboratory experimenters, including Jonas W. Aylsworth, John Joseph Force, H. De Coursey Hamilton, and Joseph W. Harris. Numerous drawings from 1887 and 1888 are signed by Mina Miller Edison as a witness. Some of the notes and drawings carry inscriptions indicating that they were used in the preparation of caveats and patent applications. Other items, such as the series of kinetoscope drawings at the beginning of the "Undated Notes and Drawings, ca. 1888" folder, are also closely related to material in the Patent Series. Approximately 80 percent of the documents have been filmed.

The notes and drawings appear on the microfilm in three series.

**Dated notes and drawings** covering the periods 1887-1892 and 1895-1898 are arranged in chronological order. Also included in this series are undated items that seem to be continuations of dated entries, as well as related undated material (often pinned together with the dated documents).

**Undated notes and drawings,** prior to their reorganization, were generally filed in the Document File under an attributed year. Undated material that was probably generated within the year of attribution, along with other items that present no compelling evidence of being misfiled, are arranged on the microfilm according to the attributed year. Within each attributed year, documents by Edison and his closest associates and those items with the clearest experimental context appear first. Those documents for which no specific year can be reasonably conjectured appear at the end of the series.

**Oversize notes and drawings** are items that are too large to be filmed at the standard reduction ratio of 14:1. The dated documents appear first, followed by the undated items.

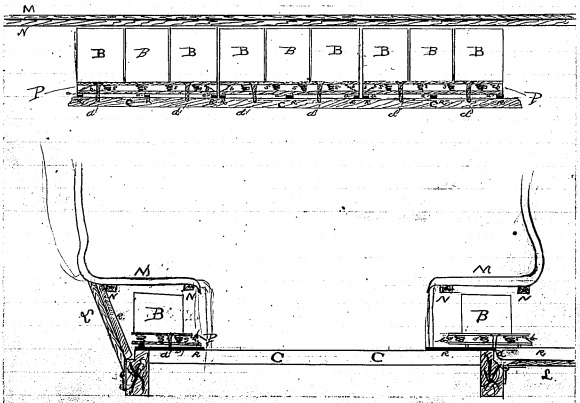
# UNBOUND NOTES AND DRAWINGS
# 1887

3

CLARENCE M. ELLINGER,
MALT BROKER,
ROOM 143, KEMBLE BUILDING.

MALTING CAPACITY, 300,000 BUSHELS.
EASTERN AGENCY,
G. J. HANSEN & CO.,
MILWAUKEE, WIS.

New York, ..... 188




C. C. Bottom of Car.
M. M. Seat.
N. N Beam Support.
S. S Car Panel.
R. R. Rail.
a. a Roller on bottom of Platform.
s. s Springs.
F. F Platforms.
b. b. Controlling device.
B. B. &c Boxes cont. bottles.

J. W. Ellinger
Feb 1/87

THOMAS A. EDISON,
PRESIDENT.
CHAS. BATCHELOR,
VICE-PRES'T. AND GEN'L MGR.

SAMUEL INSULL,
SECRETARY AND TREASURER.
JOHN KRUESI,
ASSISTANT GEN'L MGR.

# THE EDISON MACHINE WORKS,

CABLE ADDRESS:
"XYDSUN NEW YORK."

Schenectady, N. Y., .....

Thermometer test on Carnahan

Geo Thermometer 1 on Band = #1
1 on Wire #2

| Time | 5 | 10 | 15 | 20 minutes |
|---|---|---|---|---|
| #1 | 73 | 81 | 81 | 80 |
| | 65 | 78 | 78.5 | 78. |

again

| | | | | |
|---|---|---|---|---|
| #1 | 65.5 | 75. | 76 | 75 |
| | 58.5 | 67 | 67.75 | 67 |

Bulbs covered with waste

Mch 30 1887

133 Geo Green Ontario

Lamps

THOMAS A. EDISON, PRESIDENT.
CHAS. BATCHELOR, VICE-PRESIT. AND GEN'L MGR.

SAMUEL INSULL, SECRETARY AND TREASURER.
JOHN KRUESI, ASSISTANT GEN'L MGR.

# THE EDISON MACHINE WORKS,

CABLE ADDRESS:
"XYDSUN NEW YORK."

Schenectady, N. Y., Mch 30th 1887

Characteristic of a #6.

~~20% overload~~

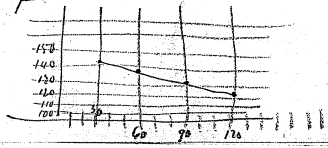
Test ~~[illegible]~~ 20% overload
4 hrs 125 V 144 a. 1500 speed

Temp. 89.5 — 89 — 89.5 — 84
Minutes 5 10 15 20

Insulation 8000 meg.

| | | | |
|---|---|---|---|
| a. | 120 — 125 | Mean curve shows | 125 |
| | 90 — 131 | | 131.5 |
| | 60 — 137 | | 137 |
| | 30 — 141 | | 141 |
| | 0 — 143.5 | | 143.5 |
| | 30 — 140.5 | | 141 |
| | 60 — 134.5 ? | | 137 |
| | 90 — 132.5 | | 131.5 |
| | 120 — 125. | | 125. |

Mch 30/87



Thomograph
May. 1st. 1859

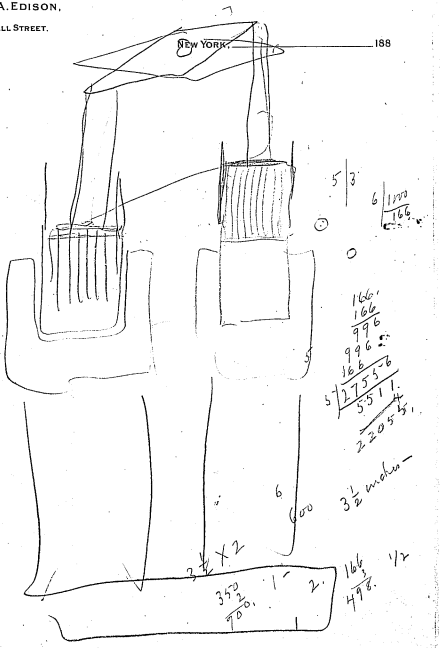
Thermograph.
May 4th 1887.
80-candles-
candle.

CABLE ADDRESS "EDISON, NEW YORK"

THOMAS A. EDISON,

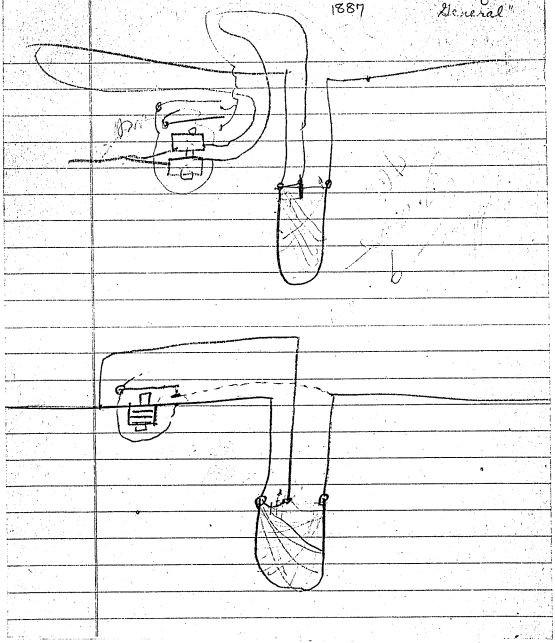
40 & 42 WALL STREET.

NEW YORK, 188

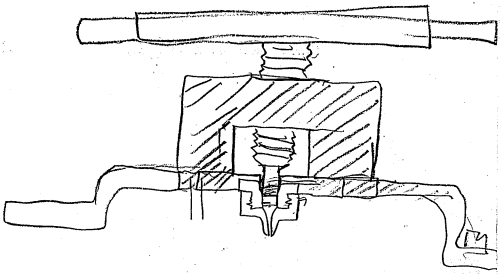


D
1887

"Electric Light — General"



1887-05-14



May 14 87

J. F. Otto

THE EDISON LAMP CO.,

East Newark, N. J., _____ 188__

'046 Kent Ave

May 16 1887

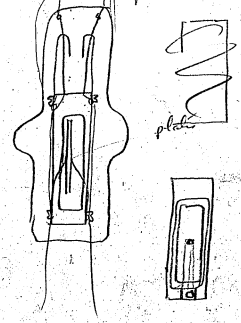
Johnson - Minneapol Tag

About Every lamp in 20 doesn't arc when the Carbon breaks in this Circuit The Circuit wire'd remain open - The right of our Co to use of the paper Cut out is doubtful therefore I want to get a Cut out

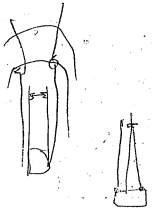
(1000 Volts, with plates one Millimeter apart. & one square decimetre in area each. produces an electrical attraction Equal to 5.7 grammes weight) 1 decimeter is I think about 125 square inches or plate 11 inches square. or 45 milligrammes to square inch - now if you can put one square inch of surface



opposing another of Equal area both on delicate springs. The Current will cause them to draw together ~~with force~~ just the same as if you had 45 milligrammes on one of the plates, I think this is plenty - I propose to make an insulating part thus

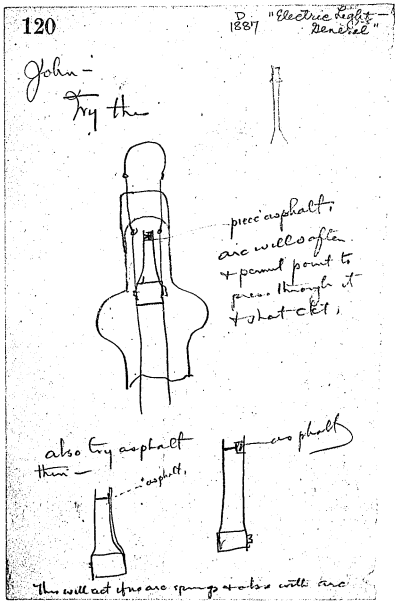


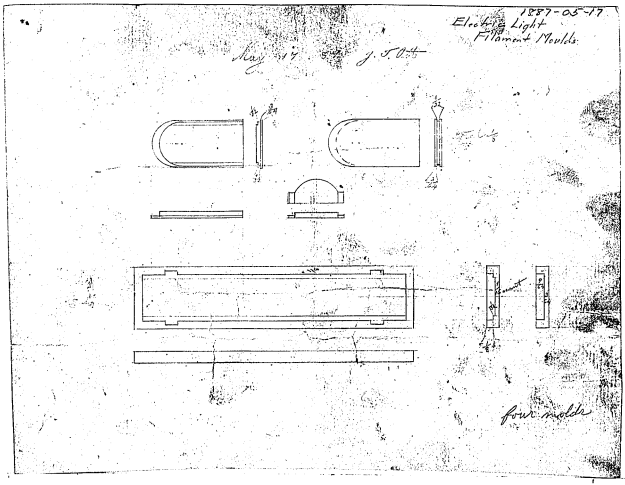
123



130

[ATTACHMENT]


120
1887 "Electric Light — Renshel"
John —
try the
piece asphalt;
arc will so often
& permit point to
pass through it
& short-ckt;
also try asphalt
then —
asphalt;
arc phalt
The will act if no arc sparks & also with arc


1887-05-17
Electric Light
Filament Moulds
May 17
J. S. Ott
four molds

5/18/87

15 [illegible] are to be worked regular way
then when ready to acid peg down to
a yellow red heat & allow pumps
to run for 6 hours then acid [illegible] 40 m
then acid up [illegible]

[illegible]

15 [illegible]

Order Sample No 1

TAE Notes - Copy (Lamps - Filaments)

CABLE ADDRESS "EDISON, NEW YORK" Recd. 5/28/84. cf 8 2

THOMAS A. EDISON,
40 & 42 WALL STREET.

NEW YORK, _____ 188

Saxaldy

Run a curve of Regulars made this

Put on pumps and exhaust & gradually bring lamps up to about 3 candles say as which yellow - then let them run 3 hours this way then gradually bring it up to about 16 candles let it run 2 hours this way then bring it up & work our off clamps - and when ready to seal off put it at yellow red heat & let it burn 3 hours then seal off - you can do this in one day

Edison

CABLE ADDRESS "EDISON, NEW YORK"

#3

THOMAS A. EDISON,

40 & 42 WALL STREET.

NEW YORK, _____ 188

Saxe & Co

Run another Curve get vac &
Run lamp up to Bright yellow & keep
it there for 4 hours. then run to whitish
yellow say 3 candles keep it there 1
hour then run it to get air off clamps &
put it back to yellow & run 3
hours & seal off —

No. 4.

Another Curve put on early in morning
get vac & gradually run up the bright yellow
let it run till 3 o'clock then run gradually
up & work off air from clamps - then put it
back to yellow & seal off just before 6 o'clock

CABLE ADDRESS "EDISON, NEW YORK" *5.

THOMAS A. EDISON,
40 & 42 WALL STREET.

NEW YORK, _____ 188

Dear Colby

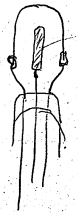
Run another Current - start at 7 o'clock & get vacuum then peg up to yellow burn 2 hours then advance peg to bright yellow burn 2 hours then advance peg to whitish yellow burn ½ hours then advance peg to say 5 candles burn 1 hour then to 16 candles burn 1 hour then ~~[illegible]~~ work on off changes & peg back to bright yellow until 6 o'clock & seal off —

D. 1887. "Electric Light - Drawings"

6/3/87

Holzer -

Please make dozen municipal Lamps with Carter wires thus



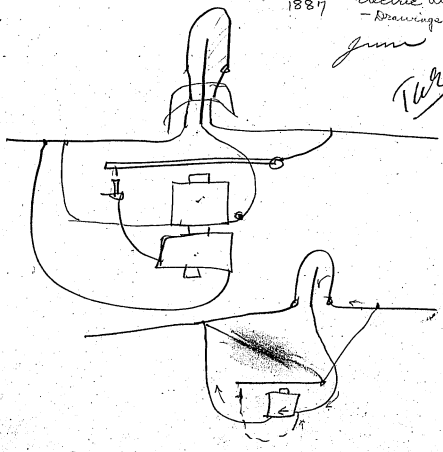

Johnson & Otis

Edison

D
1887 "Electric Light.s
— Drawings"

June 3 87

TWR



CABLE ADDRESS, "EDISON, NEW YORK"

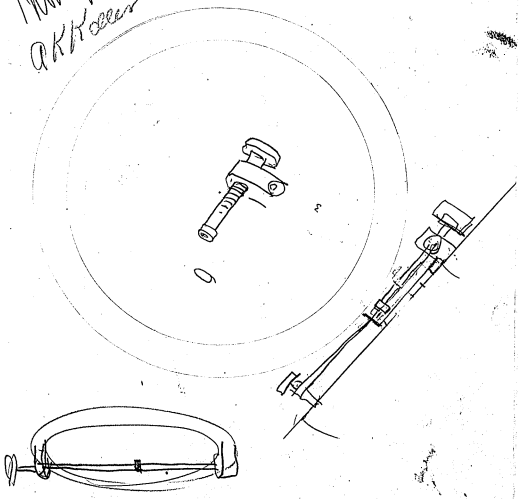
THOMAS A. EDISON,

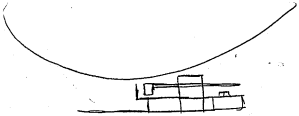
40 & 42 WALL STREET.

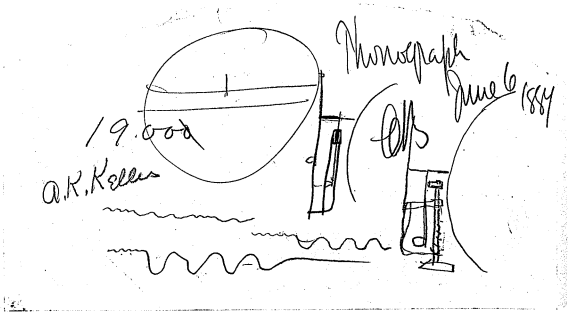
NEW YORK, _____ 188

June 6th 1884

Thomas A Edison

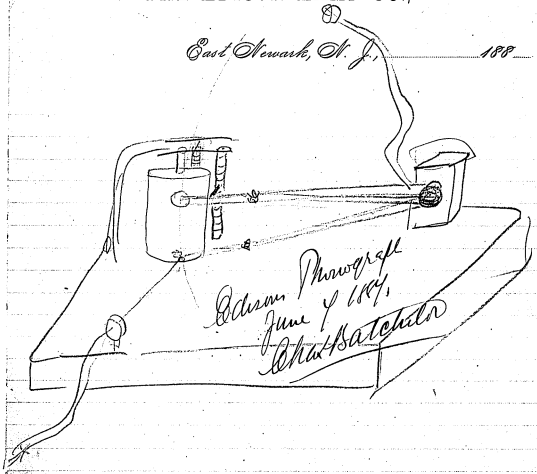





Monograph
June 6 1884
19.000
A.K. Kellen

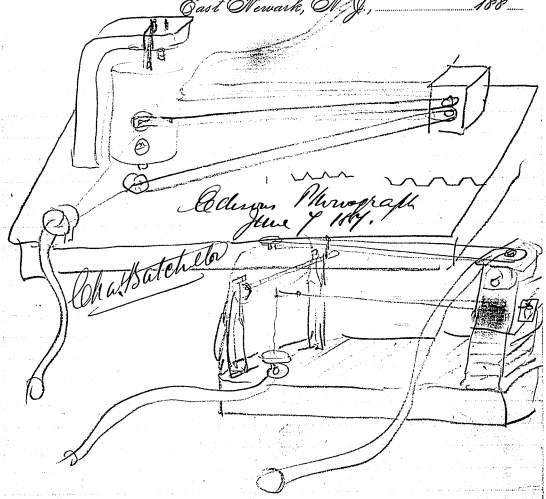
THE EDISON LAMP CO.,

East Newark, N. J., 188



THE EDISON LAMP CO.,

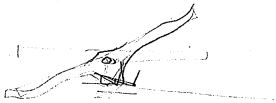
East Newark, N. J., ..... 188.....

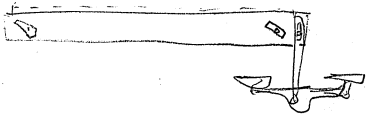


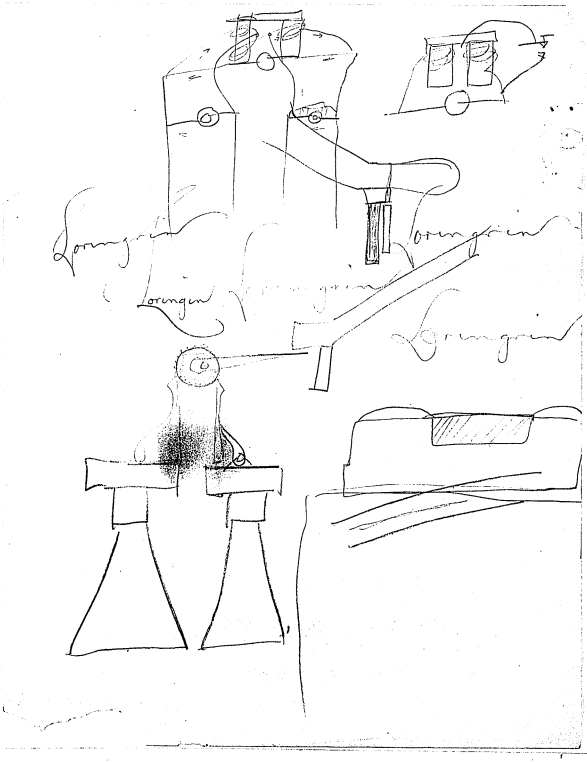
Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

Subject: _____ Orange, N.J. _____



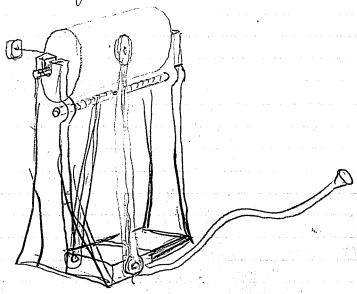



Lorungin
Lorungin
Lorungin
Lorungin

THE EDISON LAMP CO.,

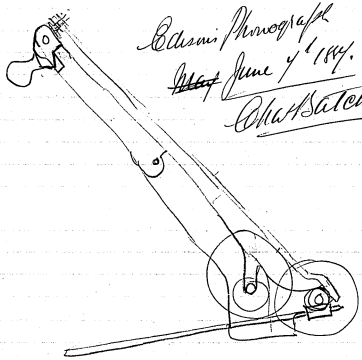
East Newark, N. J., _____ 188_____

Edison's Phonograph
June 1 1887.
Chas Batchelor



THE EDISON LAMP CO.,

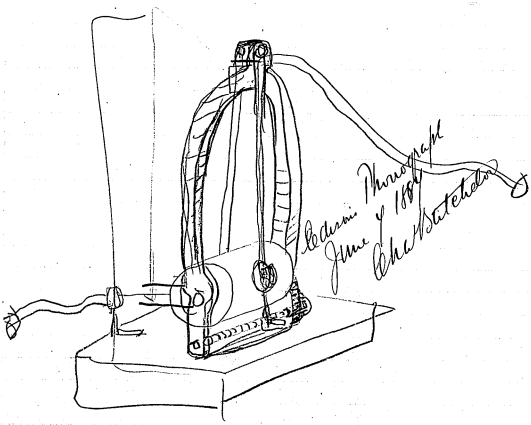
East Newark, N. J., _____ 188__



Edison Phonograph
~~Mat~~ June 4 1889.
Matt Satchelor

THE EDISON LAMP CO.,

*East Newark, N. J.,* ..... 188..



TAF

Put up 12 Lamps at 7 am get vacuum
Put in first peg on 55 Volt line, and gradually
peg up so you have full 55 Volt on Lamp -
Taking 2 hours, then pull all pegs & put on
110 Volt Current put 1st peg in & gradually
peg up so you will have full 110 Volts
on in 5 hours, then take off the 110 & put
on the 170 Volt line peg up slowly so you
will reach 130 Volts in 1 hour, then put
to yellow & seal off when power stops

Exp. No 6 -

TWL

June 7 1907

Daxell

Run following Curve

12 Lamps put on at 9 am. put Vacuum
put on 55 Volt Current peg up until all
pegged out, in 15 minutes, then take out all
pegs put on 110 Volt line, and peg up until
~~[illegible]~~ lamp got 55 Volts, then
peg up in 30 minutes until all pegs in
then, put on 160 Volt line, put in peg
to peg on next to last lamp 60X.
then in 30 minutes peg out lamp 60X & go
to peg up in continuance, allow it burn
5 minutes after last peg then put to
yellow 10 minutes & dead —
Run 2 Curves this way, so as to get
20 good lamps —

Order 7.

Dax.

No 8.

Run 12 lamps get vac. then peq right up to ~~[illegible]~~ where the clamps get hot ~~have the all done in 5 minutes~~, put peq in + hold for 3 seconds each time, then wait little + go to next peq hold 3 seconds + so on, no current on between times after this put of yellow 10 minutes + seal off -

No 9

Another Curve. get vacuum. run right up as far as you can without arcing lamp. start at low current. ~~then~~ do this until clamps clean then hold at 80 candles 5 mins + seal off

No 10

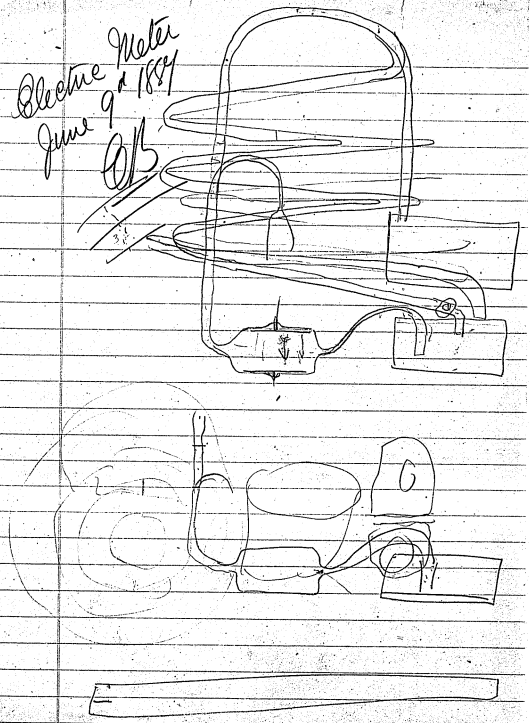
Run Curve - get vacuum put peq in and out 50 times 1 second each. if tube clean go to next peq + so until clamps clean then burn 5 minutes at 80 candles + seal off

Saxelby -

No 11

Make mixture of water paris & dip the lamps in so as to get good coating but wipe it away down near clamps so you can see clamps when you are working -
Work these lamps off regular

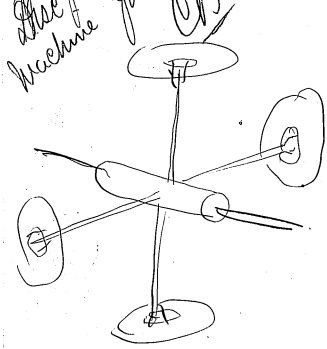
Electric Meter
June 9th 1884
O.B.



158706-09

The Edison Lamp Co.,

Harrison, N. J., ..... 188



The Edison Lamp Co.,

Harrison, N. J., 6/10 1887

Sarcelby —

Order 12

Run order of 12 10 cp lamps — worked regular but not above 115 volt Current —

to be set up at 16 candles by John Howell —

A
C
A
A
A: dies
June 16/87
1987-06-16

J. Ellinger

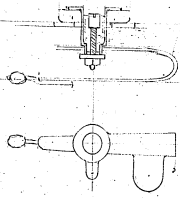
Yesterday was the first

June 17. 84

J. T. Otto

Cut Pole Cut out socket

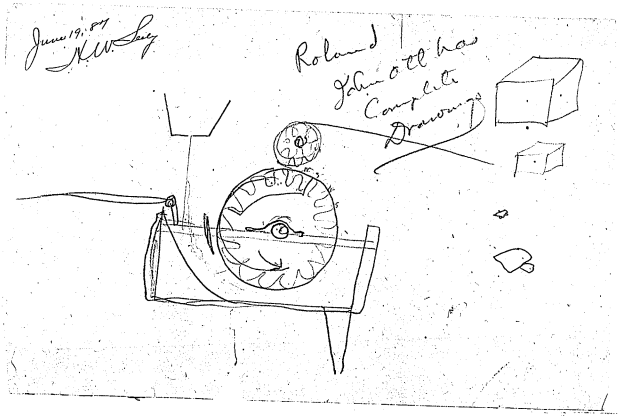
this to go in regular socket



D. 1881

Sec. 12 Sec. 1

Sacramento


June 19, 87
Roland
Johnson has
Complete
Drawings

The Edison Lamp Co.,

Harrison, N. J., ..... 188

Mains as in the regular system ~~again in the subfeeder~~ fig 3 & 4 illustrate only subfeeder net work —

Etc Etc —

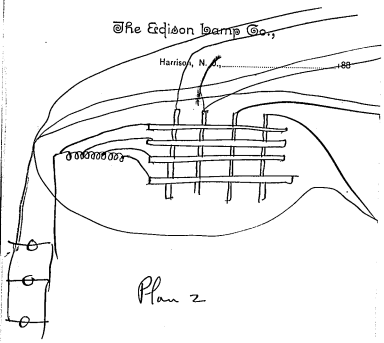
The main Claim is for a connected subfeeder net work connected to the station by a main feeder

2 or more areas in series arranged with net work mains — net work subfeeders & main feeder — Etc

Aug 24/87 Tilden

The Edison Lamp Co.,

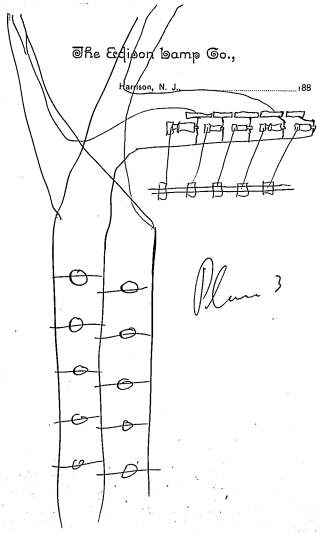
Harrison, N. J., ..... 188



Plan 2

The Edison Lamp Co.,

Harrison, N. J., ..... 188

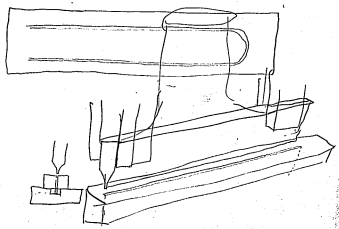



The Edison Lamp Co.,

Harrison, N. J., ..... 188

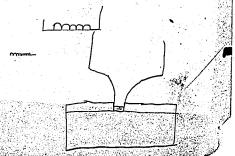
$\frac{1}{100}$ — $\frac{1}{120}$ of 1 amp.

10. 15 " 1000 amp —



3/4 15 16

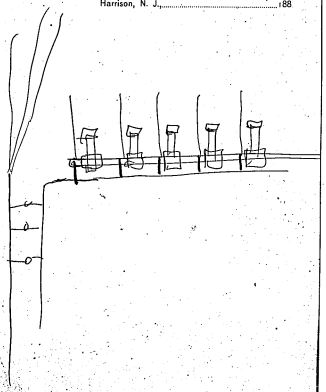
4 1/2



(1891)

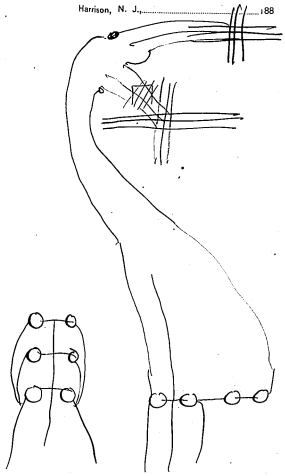
The Edison Lamp Co.,

Harrison, N. J., ..... 188



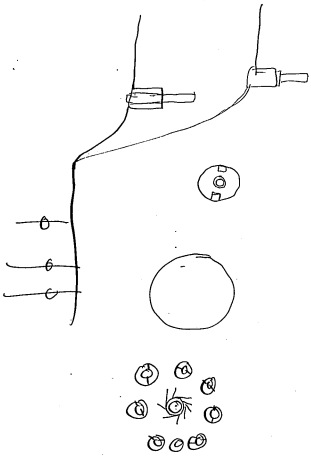
The Edison Lamp Co.,

Harrison, N. J., ..... 188



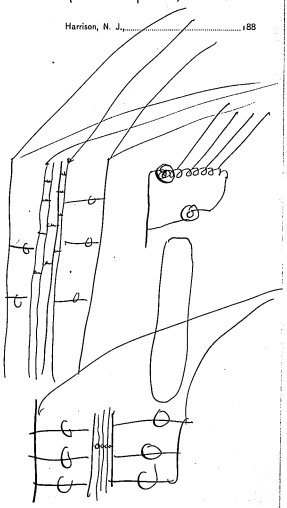
The Edison Lamp Co.,

Harrison, N. J., ..... 188



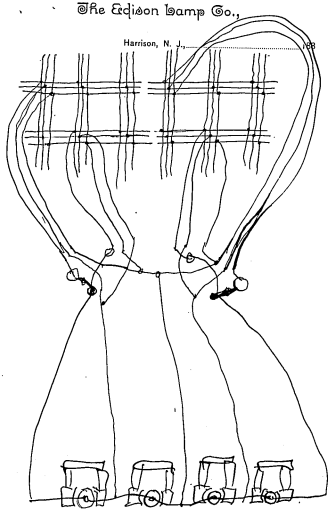
The Edison Lamp Co.,

Harrison, N. J., ..... 188



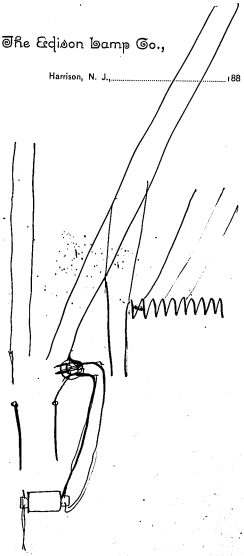
The Edison Lamp Co.,

Harrison, N. J., ..... 188



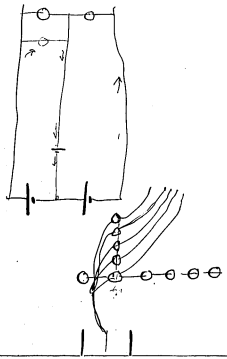
The Edison Lamp Co.,

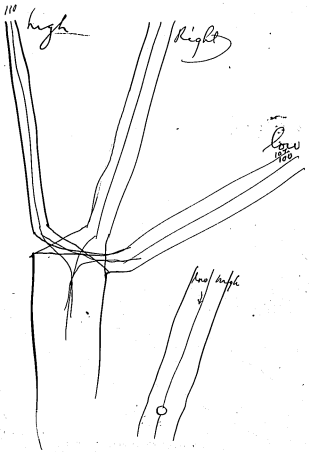
Harrison, N. J., ..... 188



The Edison Lamp Co.,

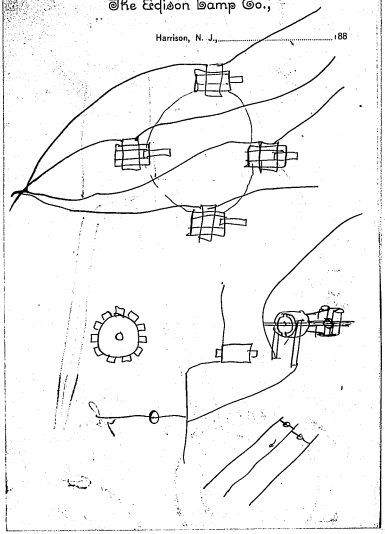
Harrison, N. J., ..... 188





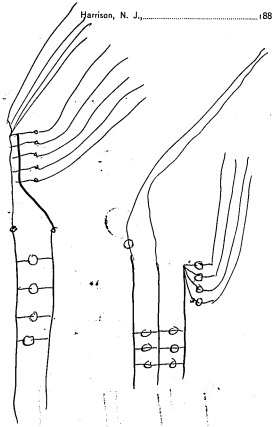
The Edison Lamp Co.,

Harrison, N. J., ..... 188



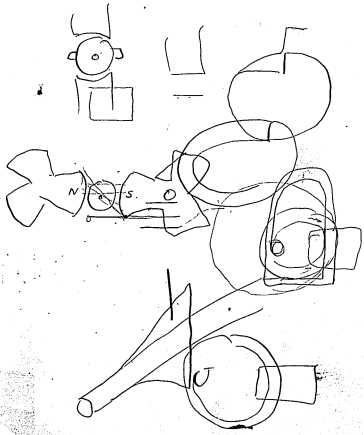
The Edison Lamp Co.,

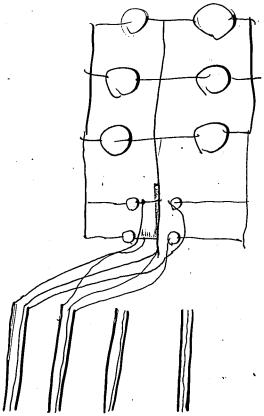
Harrison, N. J., ..... 188

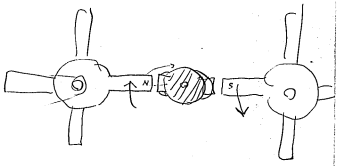


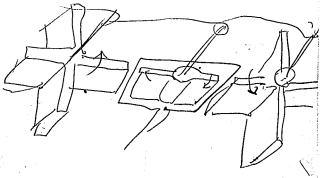
The Edison Lamp Co.,

Harrison, N. J., ..... 188






N
S



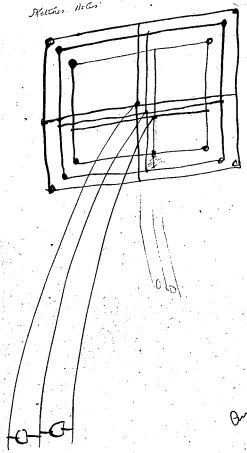


Fig 3

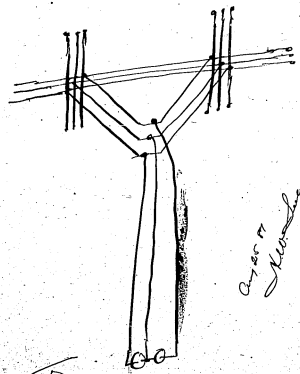
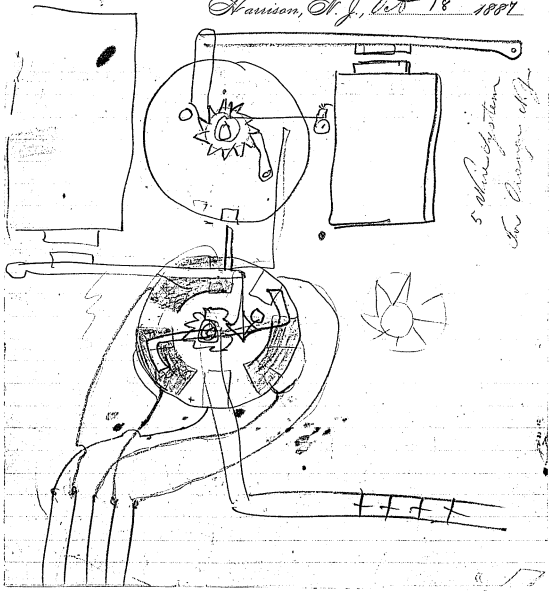


Fig 4

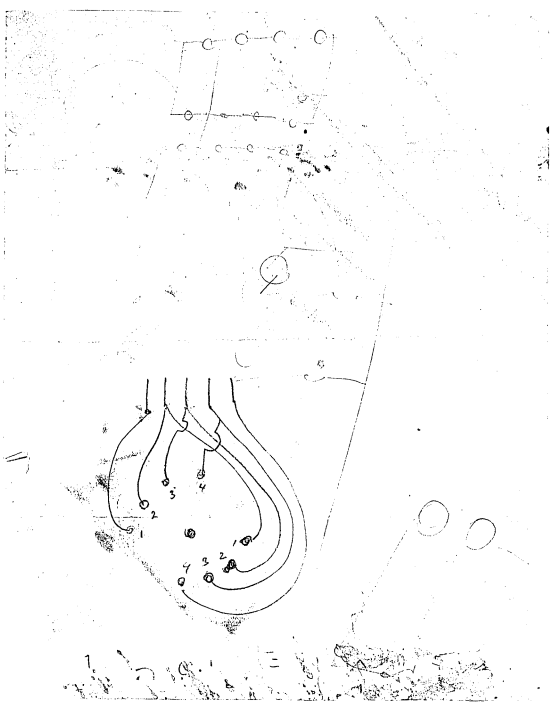
1887-10-18
5 wire system

THE EDISON LAMP CO.,

Harrison, N. J., Oct 18 1887



5 wire system
Mr Chapman N.Y.



SKIDMORE, OWINGS & MERRILL

1987-11-15

5100 1.452
5100
14200
7400
7405.200

~~7400~~
~~5904~~

4936
1936

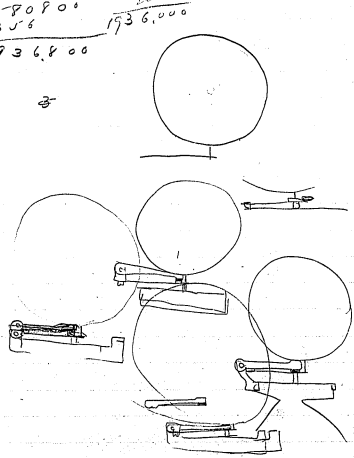
Maria Edison
Nov. 10/87

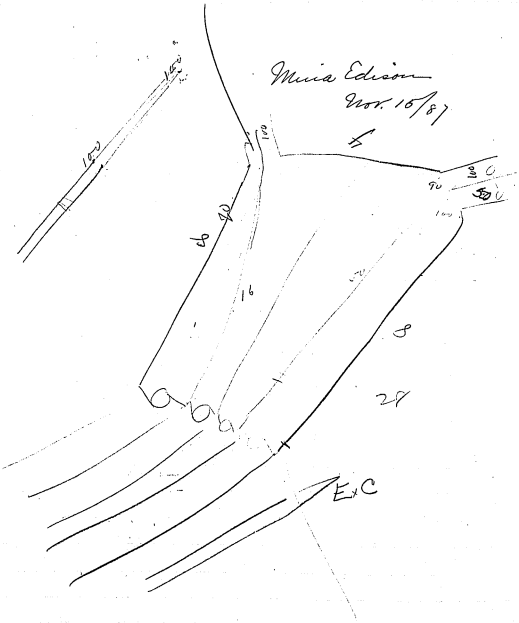
.485
.968
3000
2904.000

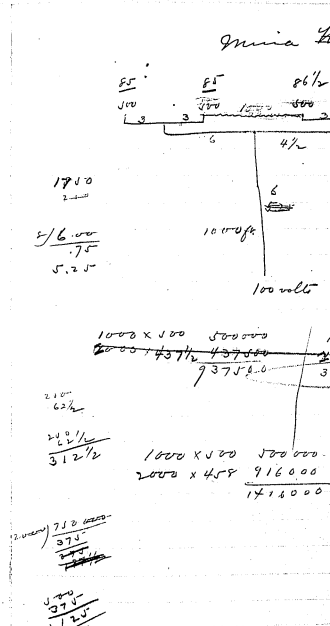
1.452
3400
5808.00
4356
4936.800

.968
3000
1936.000

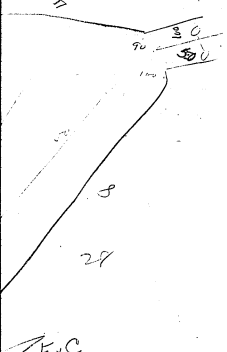
363
394
1357
7800
6058.00
757




Maria Edison
Nov. 16/87
E.C


Maria
85
86½
4½
100 volts
1000 x 500 500000
1000 x 500 500000
2000 x 458 916000
1416000

Maria Edison
Nov. 10/87




Maria ~~Mitch~~ Edison
Nov. 10/87

55 : 85 86½ 88

500 · 500 500 500 500 500

3 3 3 1½

6 4½

6

10 ampere

100 volts

17500
2500

5/6.00
.75
5.25

10½ 10½
3 1½
13½ 12

150 150
13½ 12
86½ 88

1000 x 500 500000
~~2000 x 437½ 437000~~
937500

1000 x 250 250000
~~2000 x 500 1000000~~
3000 x 62½ 187500
937500

500
62½
250
312½

1000 x 500 500000
2000 x 458 916000
1416000

1000 x 250 250000
2000 x 500 1000000
4000 x 42 168000
$1418000

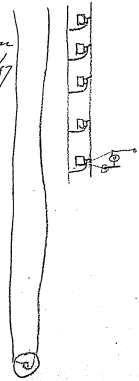
750000
375
~~375~~
~~2250~~

500
375
3) 125
42

From the Laboratory
of
Thomas A. Edison.

Orange, N.J. _____ 188

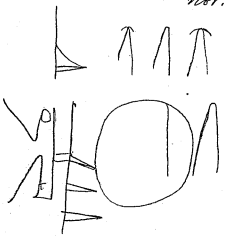
Maria Edison
Nov. 15/87



From the Laboratory
of
Thomas A. Edison.

Orange, N.J. _____ 188

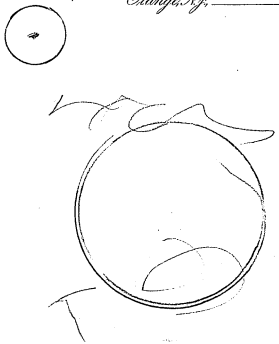
Maria Edison
Nov. 15/87



From the Laboratory of Thomas A. Edison.

Mina Edison
Nov. 10/87

Orange, N.J. _____ 188

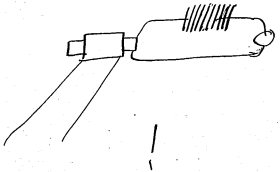


From the Laboratory of Thomas A. Edison.

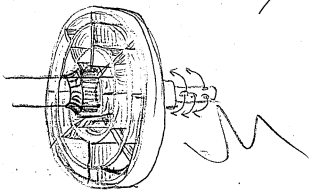
Mina Edison
Nov. 10/87

Orange, N.J. _____ 188

P 20 amp M 40

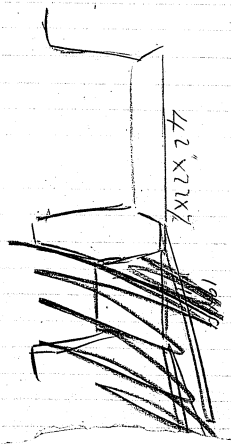


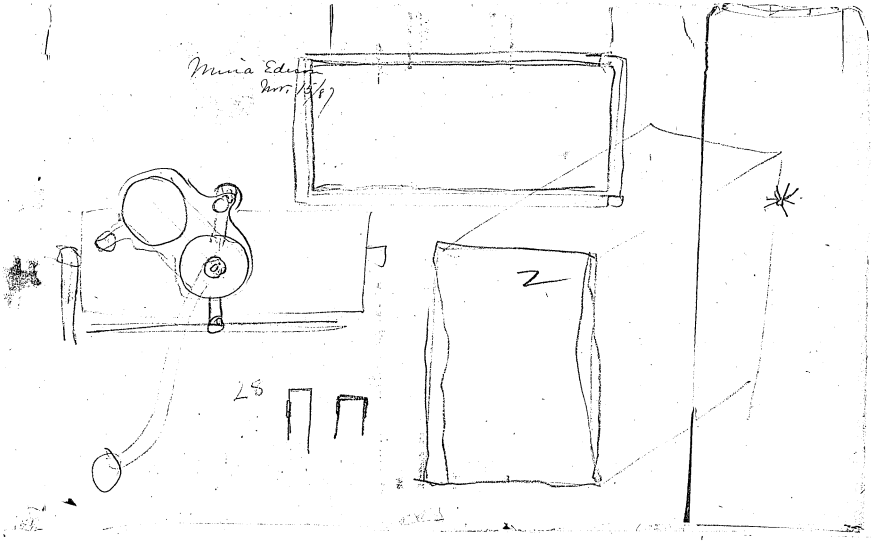
Mina Edison
Nov. 15/87

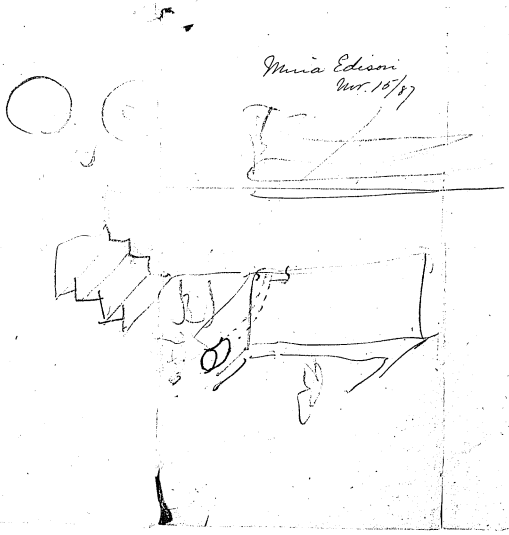


Mina Edison
Inv. 10/#7
1344
2
11
2
2
1
56
2
1
2
6
1
8
1
1
1
2

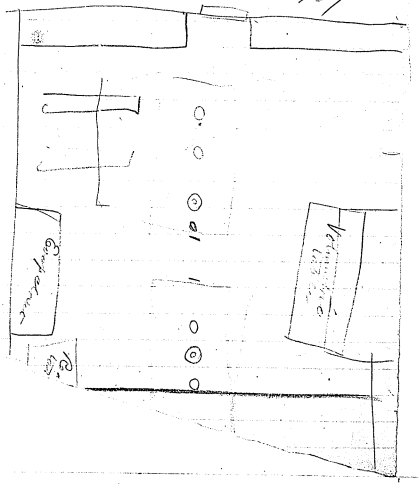
Maria Edison
Nov. 10/87




Maria Edith
Nov 15/67
2
28

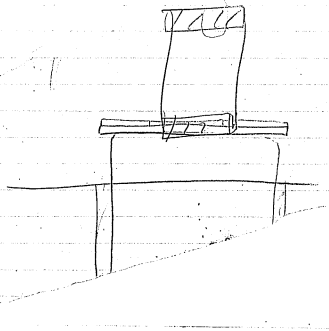

Maria Edison
Nov. 18/97

Mina Edison
Nov. 10/87

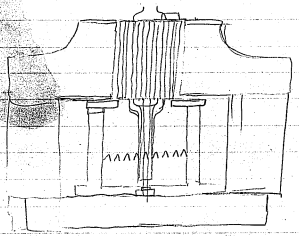


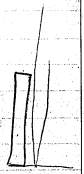
Mina Edison
Nov. 10/87

Reagent Table -
Evap Closet -
Volumetric table, 3 X
Organic Analysis -



Mina Edison
Nov. 15/87





5
10
10
5
5
5
10

5

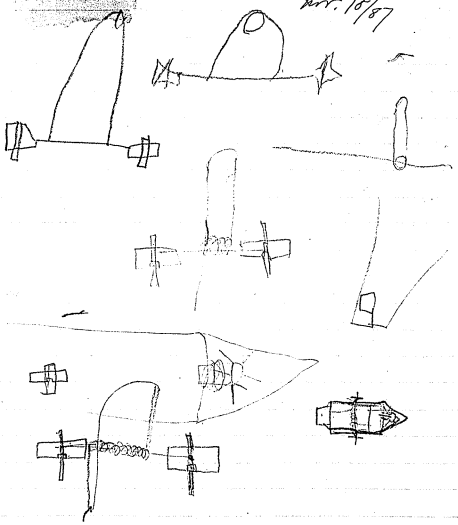
Maria Edison

Nov. 10/89

5
10
10
5
5
5
10
50

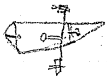
2

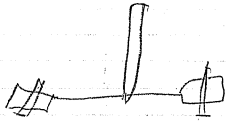
Maria Edison
Nov. 10/87



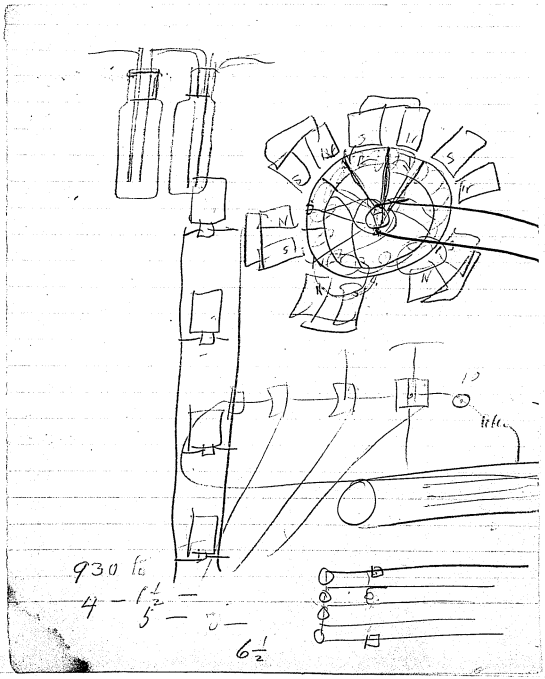
Mina Edison

Nov. 15/87

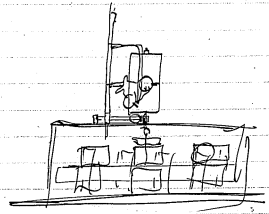


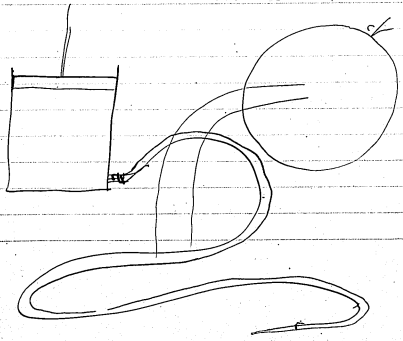


Menlo Edison
Nov. 15/87

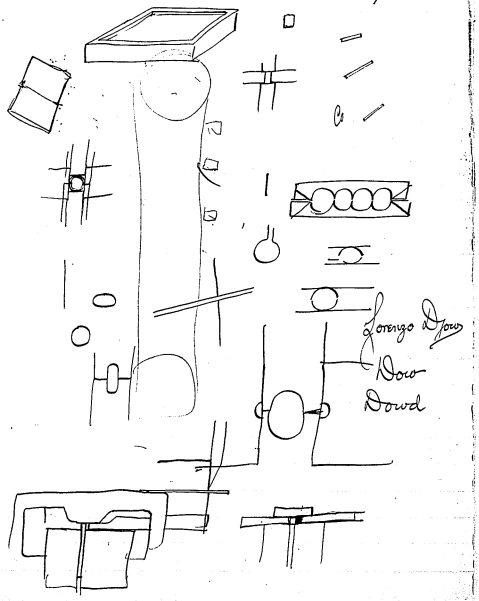

N
S
N
S
N
S
930 lb
4 — 1½ —
5 — 8 —
6½

Thos. Edison
Nov. 15/87

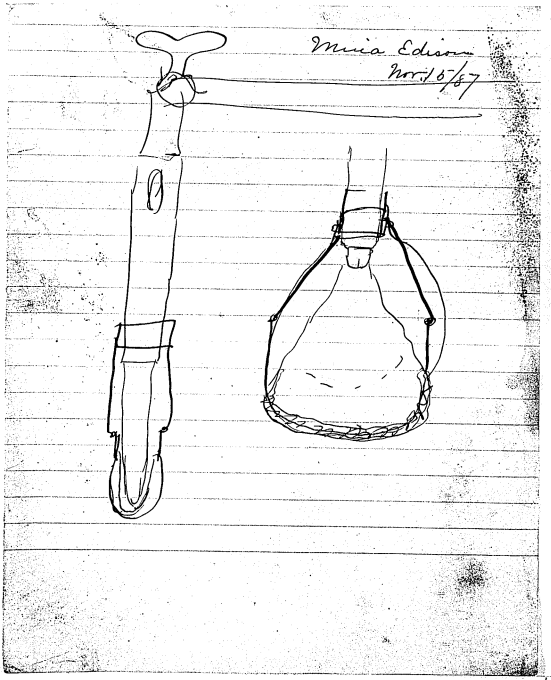




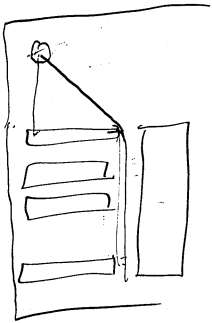
Menlo Edison, Nov. 10/87



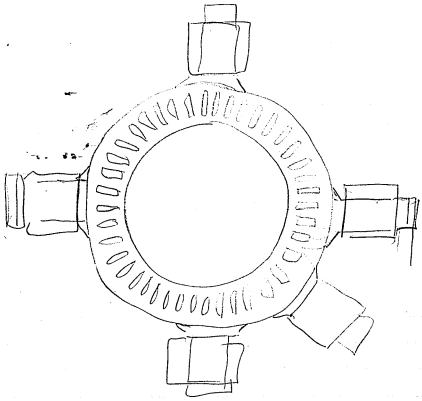
Mina Edison
Nov. 15/87



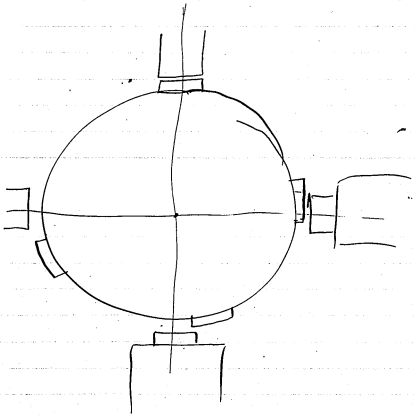
Maria Edison
Nov. 15/87

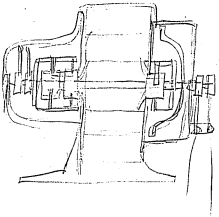


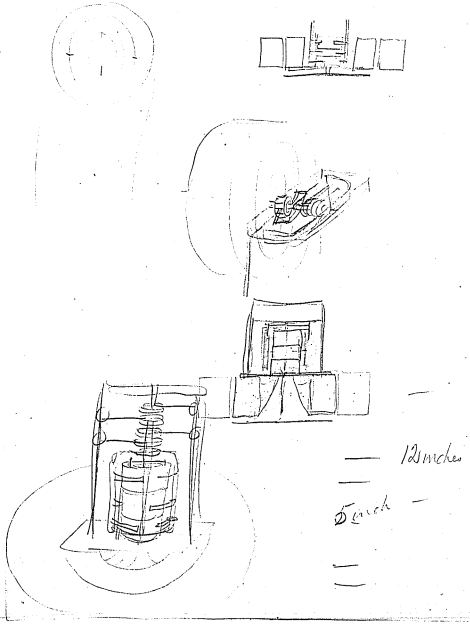
Mina Edison
Nov. 15/87

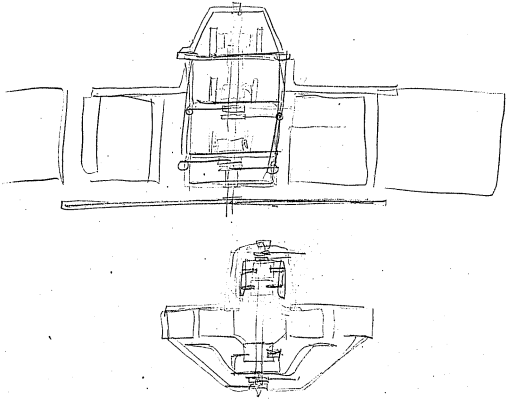


Maria Edison
Nov. 15/07

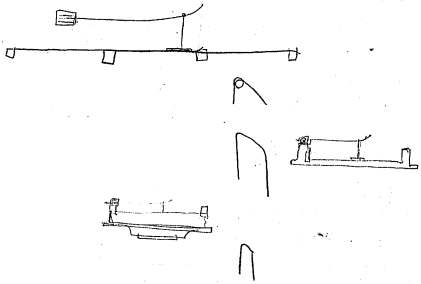




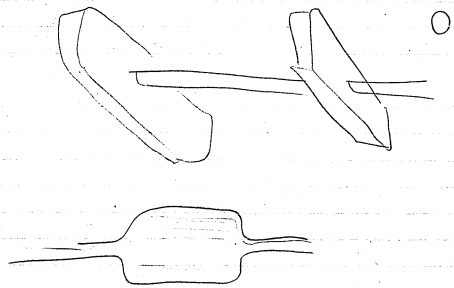

12inches
5inch



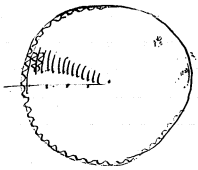
Mina Edison
Nov. 10/87



Mina Edison
Nov. 10/87



Maria Edison
Nov. 15/87

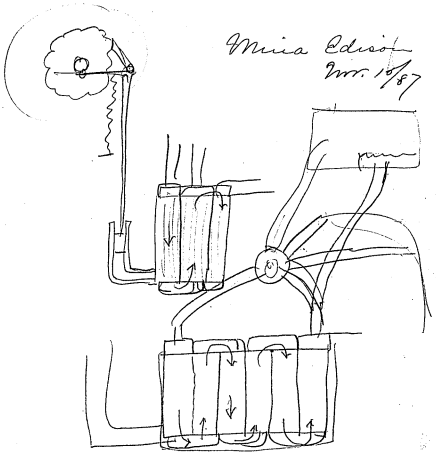


8
7
42

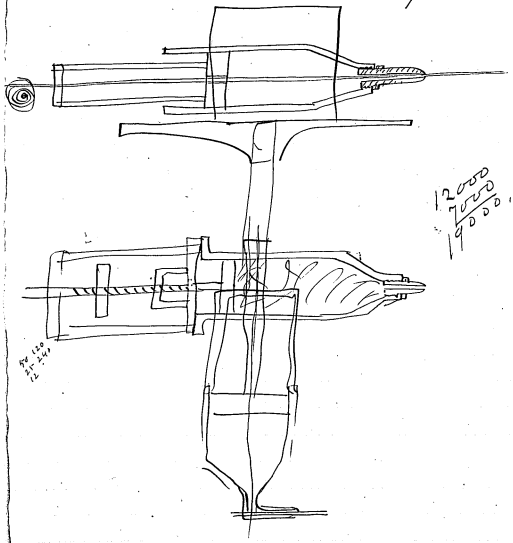
60
40
20
10
12 ) 130. (10
12
1 3.

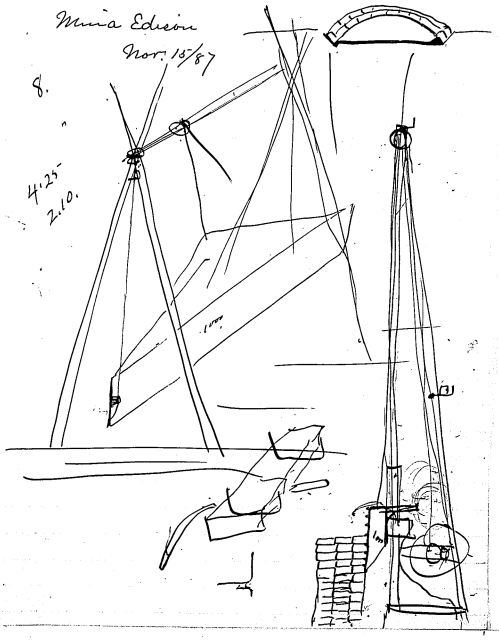
94
24
37
925
50,225

4 - 8 12

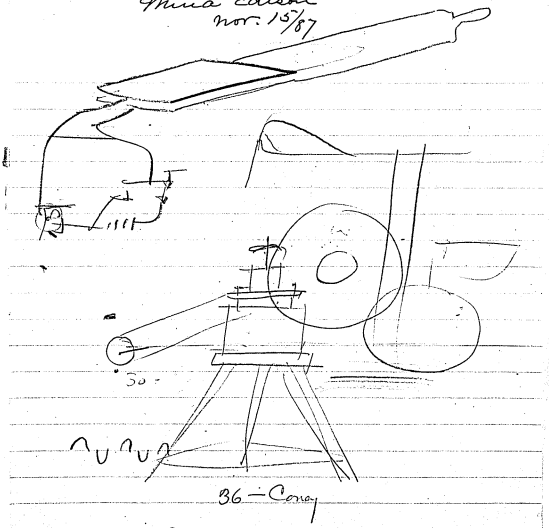

Mina Edison
Nov. 10/87

Mina Edison
Nov. 15/87

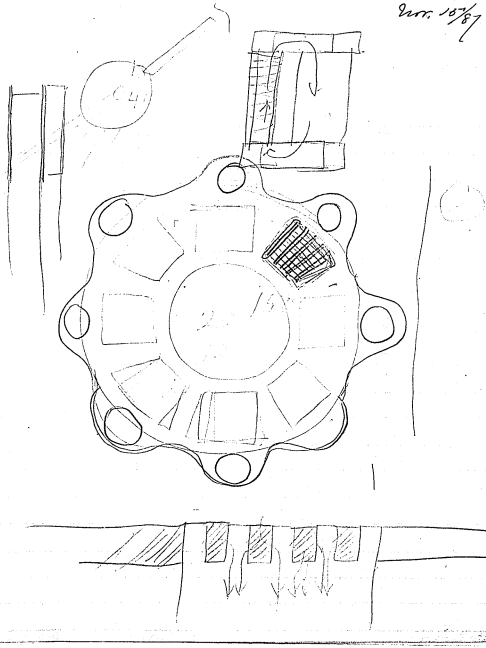



Maria Edison
Nov. 15/87
8.
4.25
2.10.
1mm
1m

Mina Edison
Nov. 15/87



Mina Edison
Jan. 10/87



| Mrs. E. | Int. |
|---|---|
| 9. | 2 |
| 19 | 8 |
| 21 | 13 |
| 11 | 4 |
| 22 | 5 |

| | | |
|---|---|---|
| 100 – | 100 | |
| 50 | 200 | |
| 25 – | 400 | |
| 12 | 8 | |
| 6 | 1600 | |

1/2 4000.

inch – 500

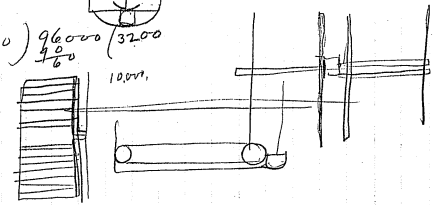
| | | |
|---|---|---|
| 40 — | 8 – | 3000 |
| 20 | 4 — | 6000 |
| 10 | 2 | 12000 |
| 5 – | 1 | 24000 |
| 2.5 – | .5 – | 48000 |
| 1.25 – | .025 – | 96000 |

Maria Adams
Oct. 1, 07

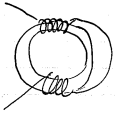
13 –
14 –
15 –
22 5

30) 96000 (3200
90
60

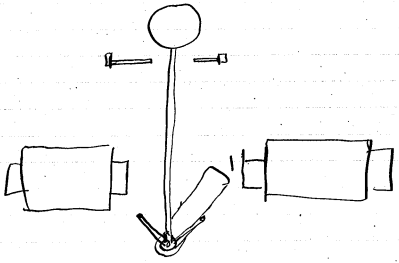
10,000.



Mina Edison
Nov. 10/87



Mina Edison
Nov. 15/87



Mina Edwin
Inv. 10/17

6.25
2.65
8.90
4.21
13.11

6.25
3.59
9.84
3.75
13.59

9.84
3.28
13.12

8.90
1.87
10.77

100
13.09
86.41

100
10.77
89.23

100
13.11
86.89

85
(86.4)
500

85.5
(86.9)
500

87.8
(89.2)
200

85

1.4

2.8

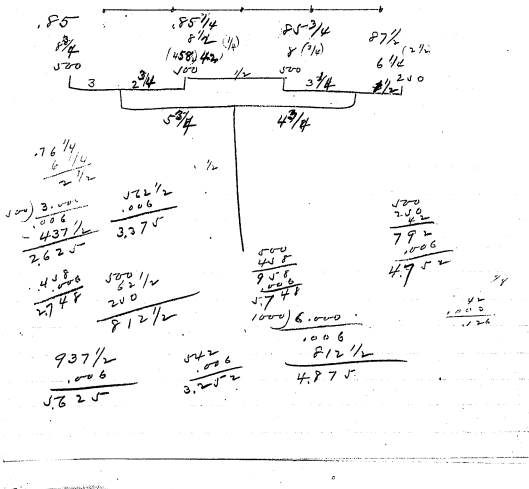
89.2
86.9

100

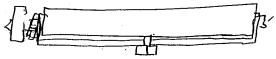
5pct
5pct
5pct
5pct
15
15
15
15
15
15
5
5
5

Mina Edison

Nov. 10/87

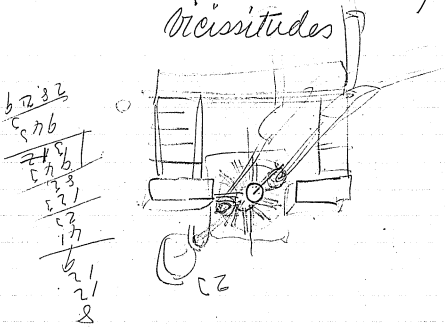


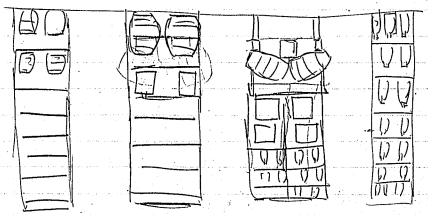
Mina Edison
Nov. 10/87



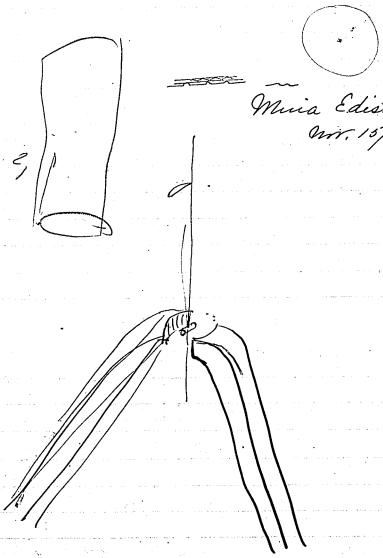
Mina Edisons
Nov. 15/87

# Vicissitudes



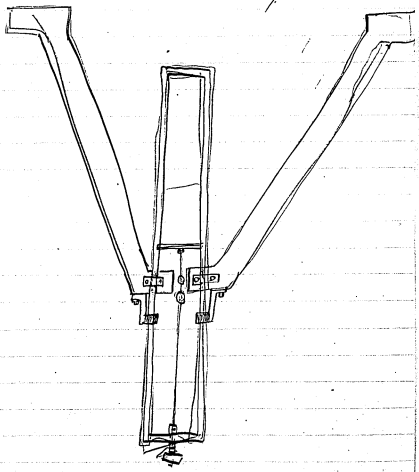


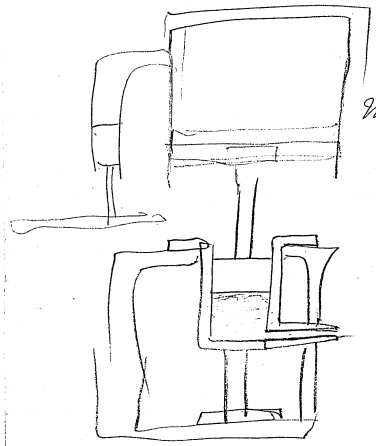
Mina Chain
Nov. 1887
84 Bbls
2 Rooms
each 104
4400
bottles
B/Carboys
3000
bottles




Mina Edison
Oct. 15/87

Mina Edison
Nov. 13/87





Mina Edison
Nov. 15/87

1

Mina Edison
Nov. 15/87

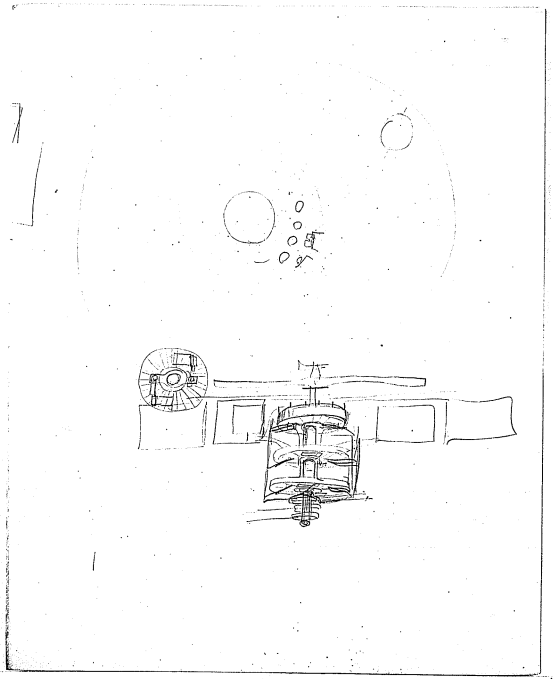
to. 20

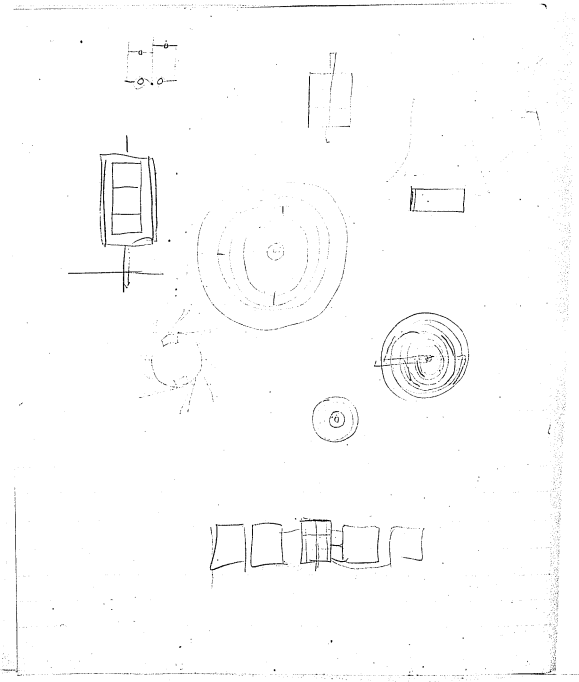
1/10 th bulk

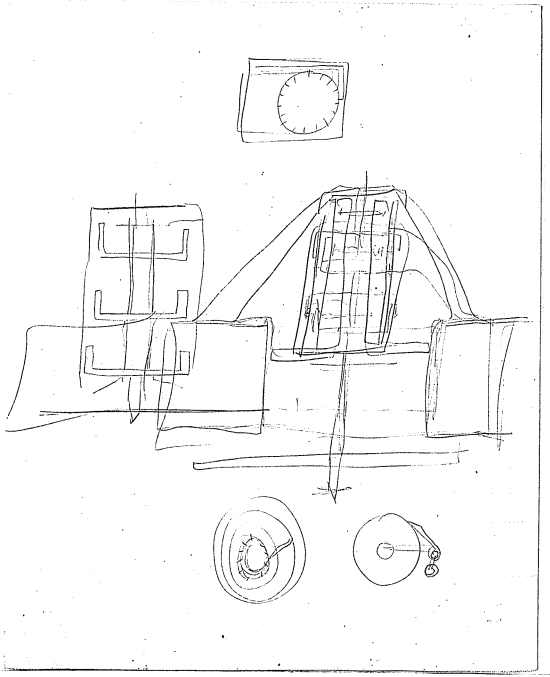
36
36
216
108
1296
36
1296
8748
3888
46656

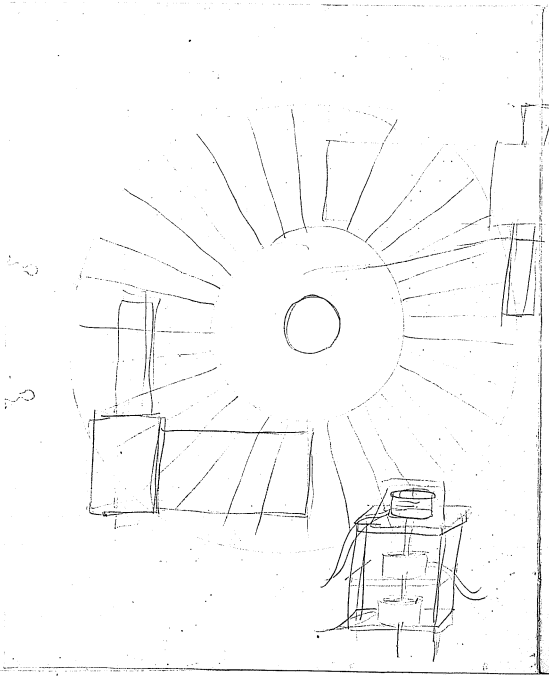
12000

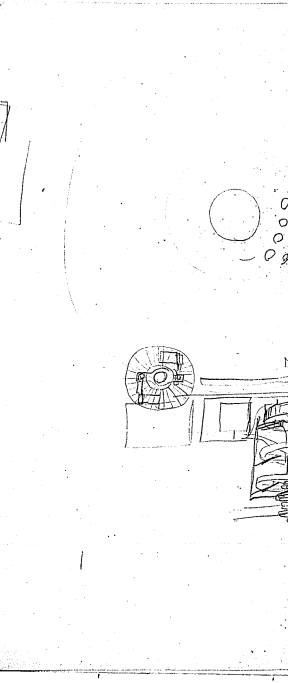
9
54

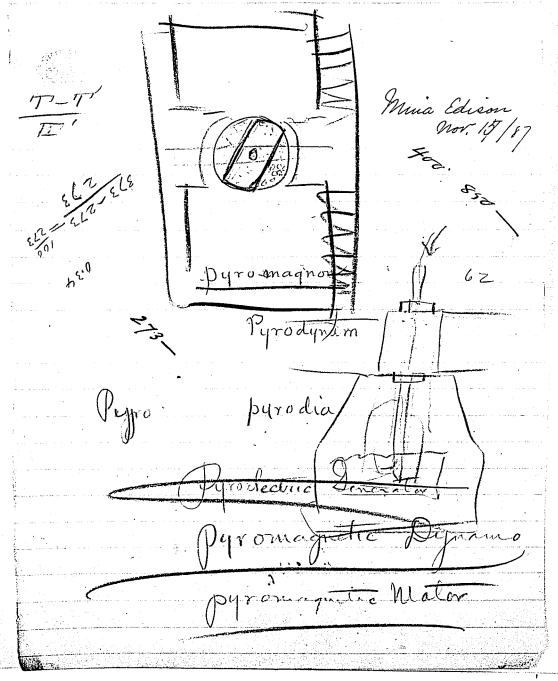








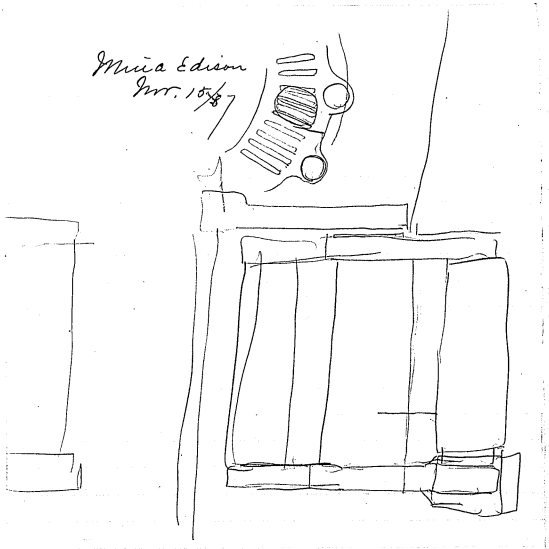



Thos Edison
Nov. 15/87
Pyromagnet
Pyrodynam
Pyro
pyrodia
Pyroelectric Generator
Pyromagnetic Dynamo
pyromagnetic Motor

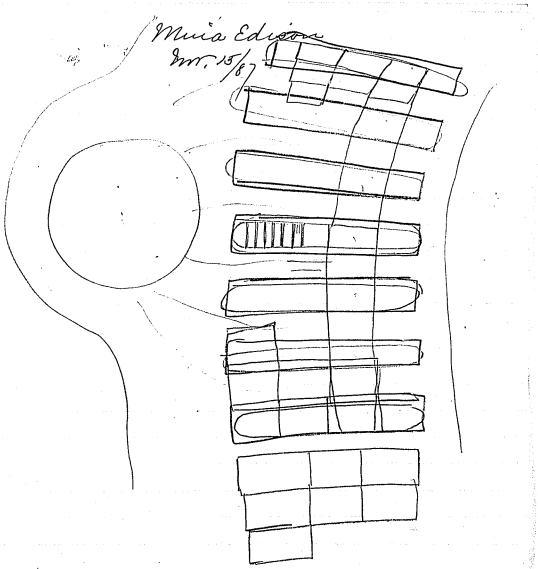
JB Elwood.

2 Sept –
desire to call your
attention to clause 4th in
your contract ~~with~~ me –
It seems to me that ~~without~~
~~you put more men on/ you~~
~~will be~~

Mina Edison
Inv. 1887



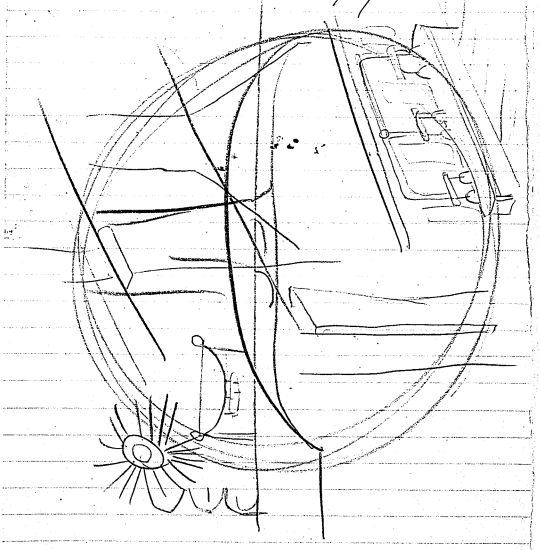
Mina Edison
Mar. 15/87

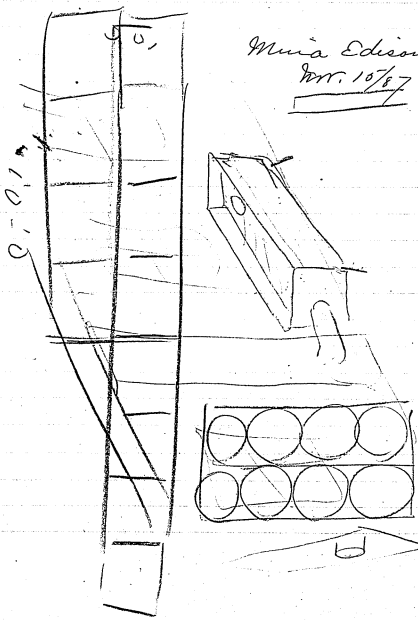


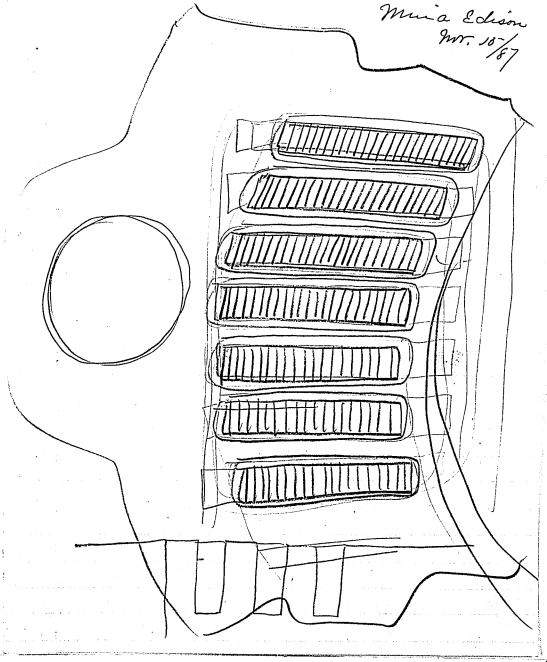
1-X 6 =

Nov. 10/87

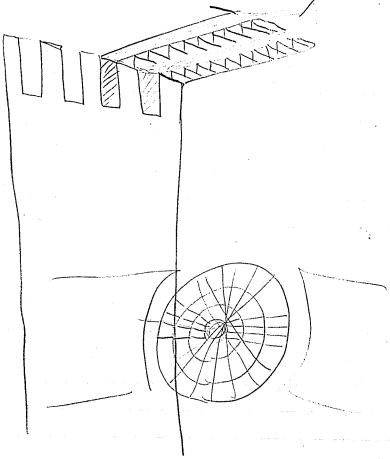
Maria Edison



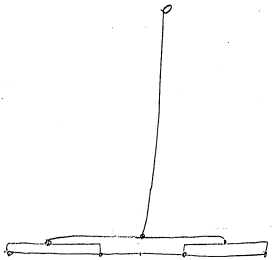

Mina Edison
Nov. 10/87


Maria Edison
Mar. 10/87

Maria Edison
Nov. 15/87



Mina Edison
Mrt. 15/87



2000
500
1000000
.18
180000.00

2000 ft 180000 1090
2000 " 180000 1090
1000 " 90000 272
2452

1000
500
500000
.18
90000.00

2000
.545
1090.000

Maria Edison
Nov. 15/87

~~2720~~
~~90000~~
~~2452000~~

1 .2725
1000
2725.0000

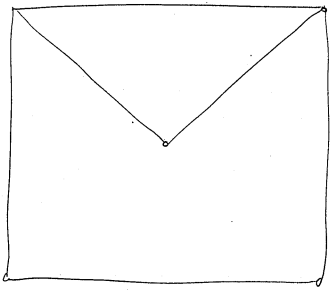
17/8

500 x 500 250000
1500 x 209 313500
563500

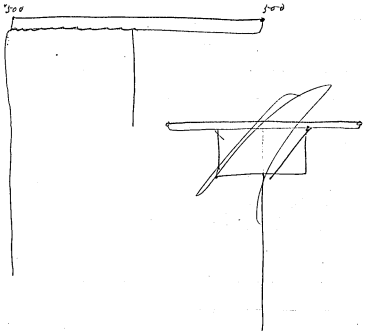
500 x 250 125000
1500 x 291 436500
561500
.3

500
1500) 125000 (83
12000
5000 417
208
83
291

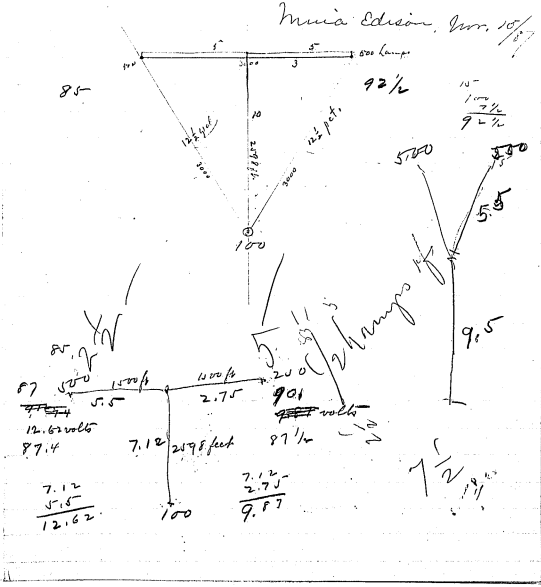
Mina Edison
Nov. 10/87



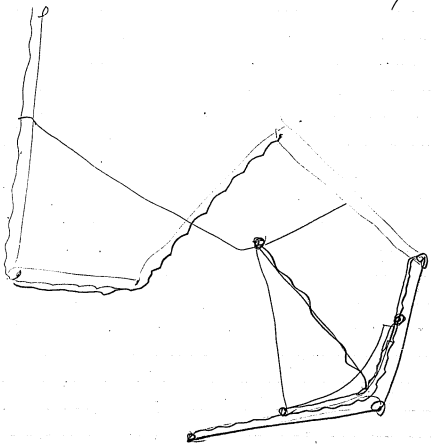
Mina Edison
Nov. 15/87



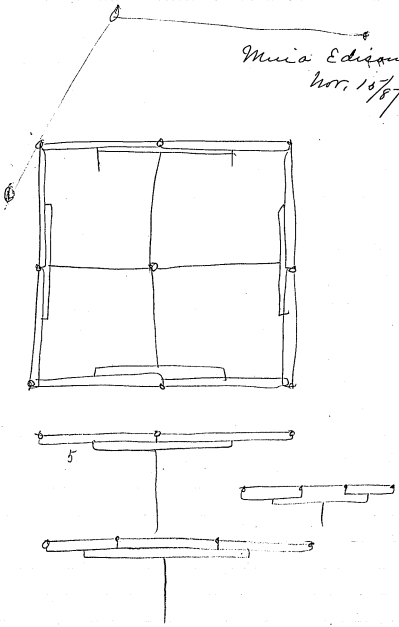
Mina Edison, Inv. 10/



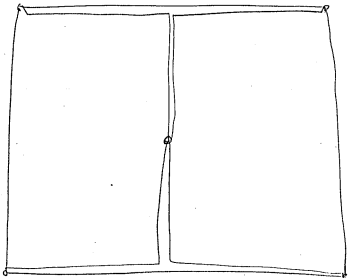
Maria Edison
Nov. 15/87



Mina Edison
Nov. 10/87



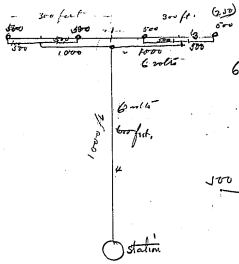
Mina Edison
Nov. 15/87

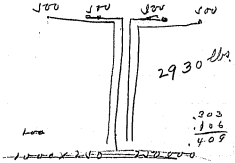


Muia Edison
Nov. 15/87

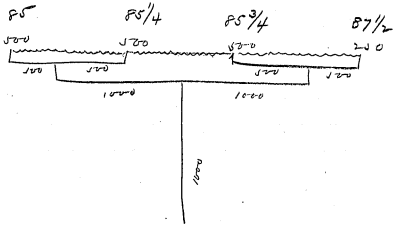
6812 lbs. #1056

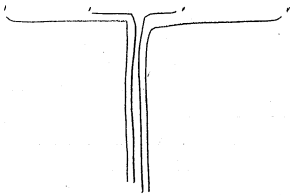
2930



Maria Edison
Nov. 15/87



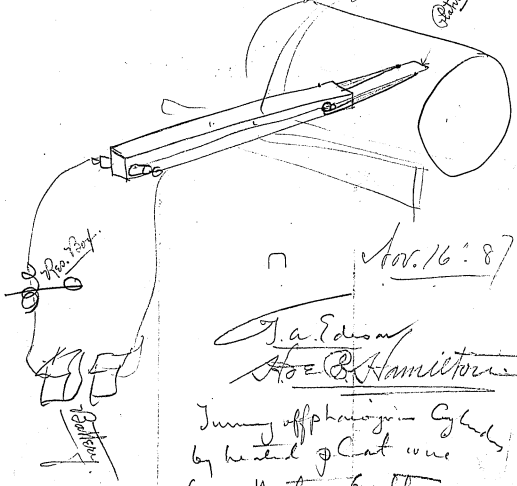



Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Orange, N.J. 188

Phonograph Horn




Nov. 16: 87.

T. A. Edison
Geo. E. Hamilton

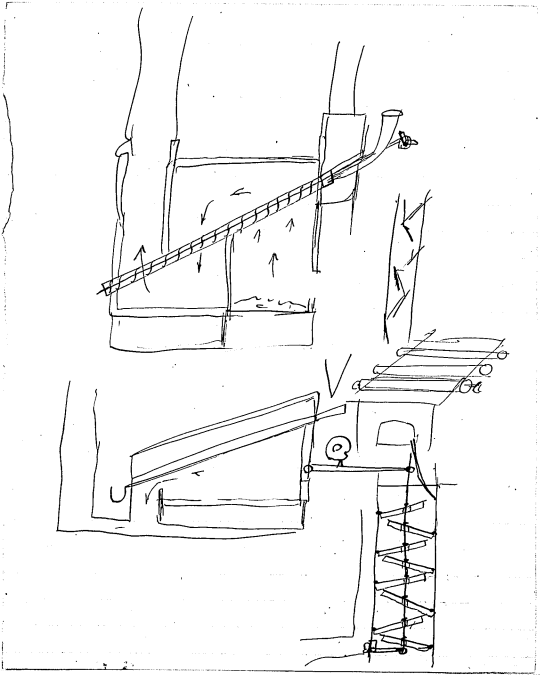
Turning off phonograph Cylinder by heated platinum wire from Motion Calling.

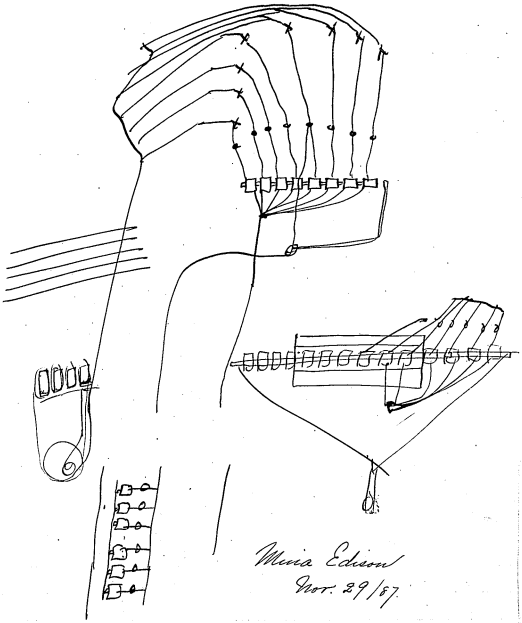
Maria Edison
Mar. 29/87

| | |
|---|---|
| 600 | 30 |
| 500 | 50 |
| 150 | 15 |
| 75 | 20 |
| 600 | 20 |
| 450 | 90 |
| 250 | 190 |
| 150 | 148 |
| 500 | 810 |
| 400 | 300 |
| 500 | 110 |
| 1800 | 220 |
| 400 | 170 |
| 600 | 650 |
| 20 | 90 |
| 9775 | 2657 |
| | 7775 |
| | 3,367 |

34364
55-00
89,364
18-00
71,364

57000


V
U



Mina Edison
Nov. 29/87

Cable Address "Edison, New York."

From the Laboratory

of

Thomas A. Edison,

Orange, N. J. Dec 30/1887

W.S.

Motograph Relay

Motograph Mirror

Volt Indicator

Pyromagnetic Generator,

Dy phone —

Mirror Expansion Galvanometer

Rotating Thermo —

Jump telegraph RR

Phanoplex —

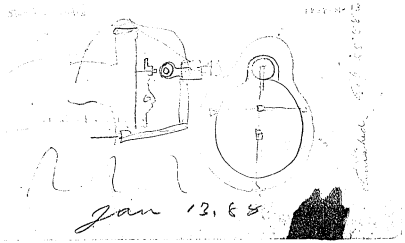
Photos of Phonograph } Wheeler

Phonautograph } C & E Motor G

# UNBOUND NOTES AND DRAWINGS
# 1888

Jan 13, 88
S
N
Chemical disturbance in magnetic field

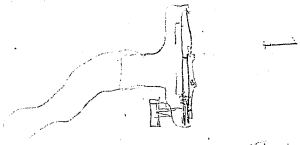

Jan 13, 87
16



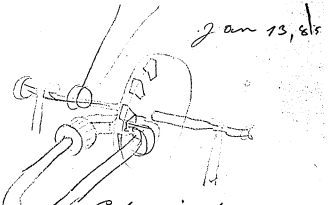
Jan 13, 68

Sketches + Notes

Jan 12, 68



Finished
Feb 25 68



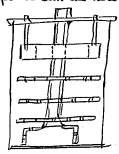

Chemical disturbance in Magnetic field

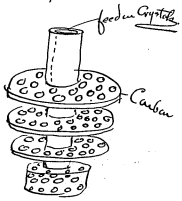
Put in Journal
18th June 88

Orange 13 Jany 1888

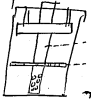
Dear Mr Connelly

Chromic acid by a new process recently discovered is now obtained in fine crystals and as cheap as Cupric Sulphate, This being the case perhaps we can now make a Gravity Cell.






John Ott can design you a simple Cell to test Experiment Amalgamated Zinc 15 pct $SO_4$ and after battery set up feed in Chromic acid Crystals a single plate would answer at first



Dickson

Jan. 18/80

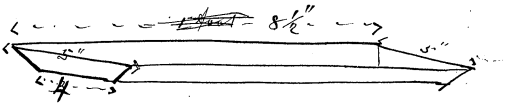
Dear John —

Attached please find sketch of pan roaster to be made of 1/16" sheet iron so that the iron will keep true or fairly so by heating.

The scraper to fit snug with iron handle riveted & wooden.

W. H. Dickson

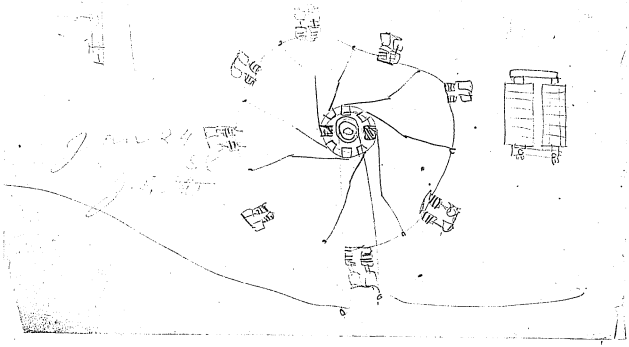
Inside measurements



Scraper to fit swing into pan

Sheet iron
16 true
These have this
made immediately
& possible

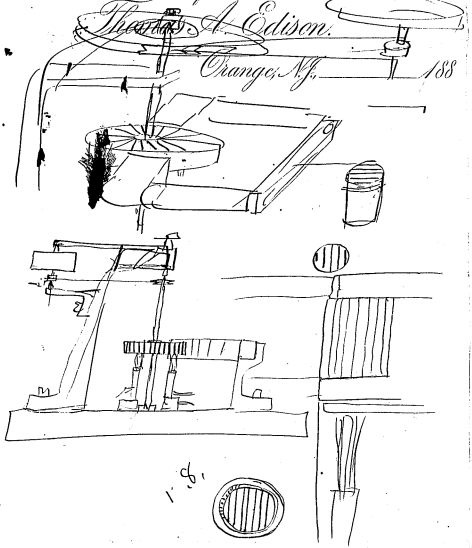
Skeletons



Cable Address "Edison, New York."

Mina M. Edison
Feb. 3/88

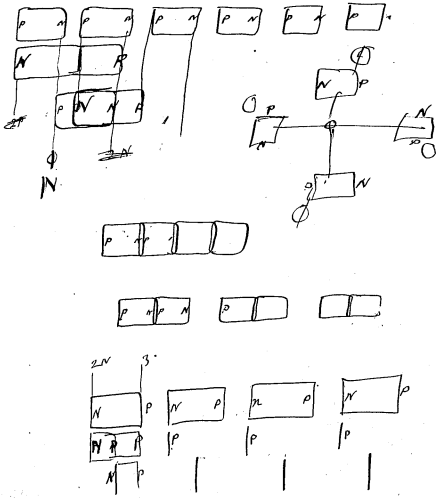
From the Laboratory
of
Thomas A. Edison.
Orange, N.J. 188

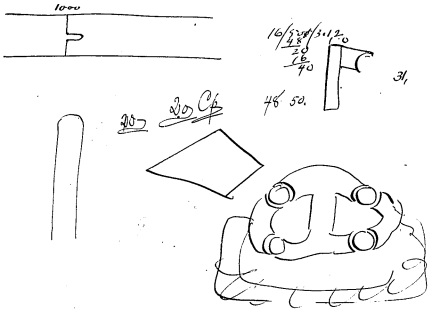


Cable Address "Edison, New York."

# From the Laboratory of Thomas A. Edison.

Orange, N.J. _____ 188

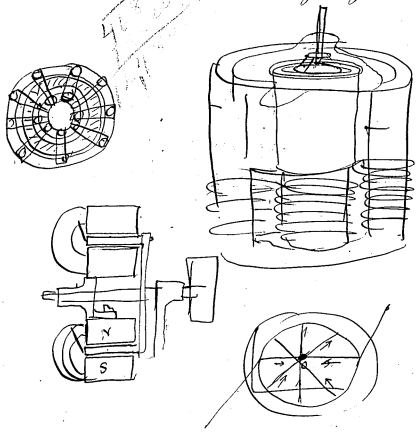


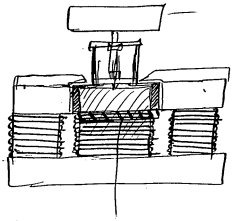

10-00
10/ 320/ 3.12
48
20
26
90
31.
48 50.
20
20 Ck

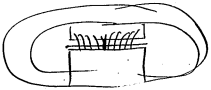
Cable Address "Edison, New York."

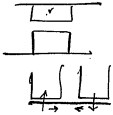
From the Laboratory
of
Thomas A. Edison.

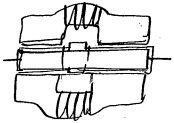
Orange, N.J. _____ 188







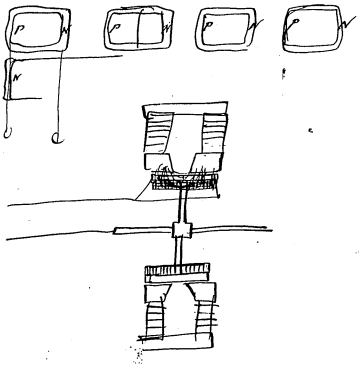




Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

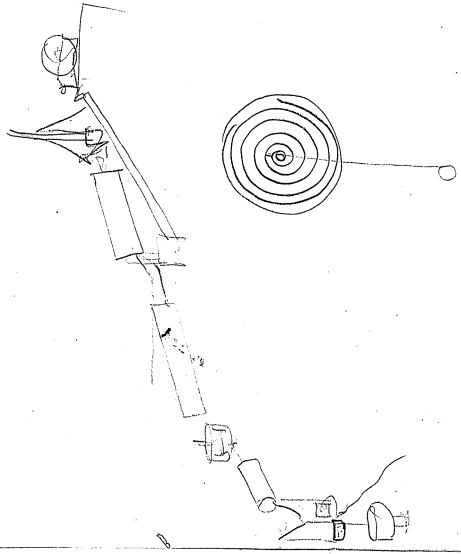
Orange, N.J. _____ 188



Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Orange, N.J. _____ 188



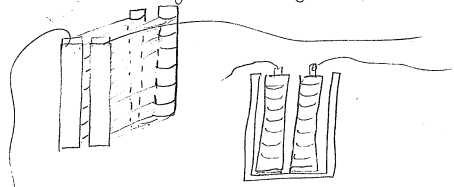
Cable Address "Edison, New York."

# From the Laboratory of Thomas A. Edison.

Subject, _____ Orange, N.J. Feb 17 1888

Kennelly —

Have made 2 cells like the Lelande with lead grids use glass cells



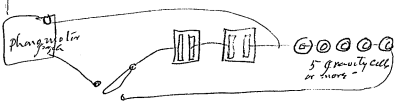
Put thick paste of red lead mixed with the Regular Solution that goes in the Cell proper — Then form them in regular way — when good —

Cable Address "Edison, New York."

# From the Laboratory of Thomas A. Edison.

Subject, _____ Orange, N.J. _____ 188

put them there -




I hope by this means to use 2 cells of storage battery in the strength of water & throwing them on the constant battery when not in use -

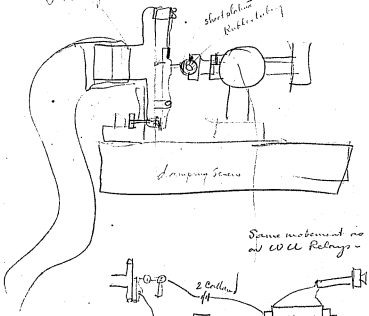
E

From the Laboratory of Thomas A. Edison.

Finished Feb 25 88

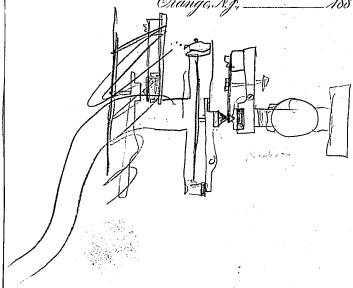
Orange, N.J. _____ 188

Platina Transmitter




From the Laboratory of Thomas A. Edison.

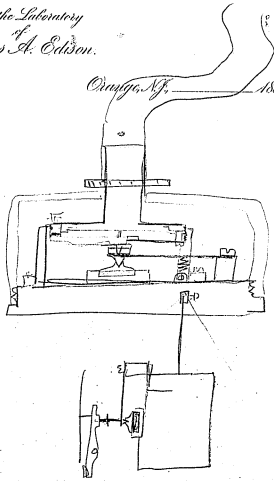
Orange, N.J. _____ 188



Finished Feb 25 88

From the Laboratory
of
Thomas A. Edison.

Orange, N.J. 188



Finished
Feb 25. 88

From the Laboratory
of
Thomas A. Edison.

Orange, N.J. 25. 2. 1888

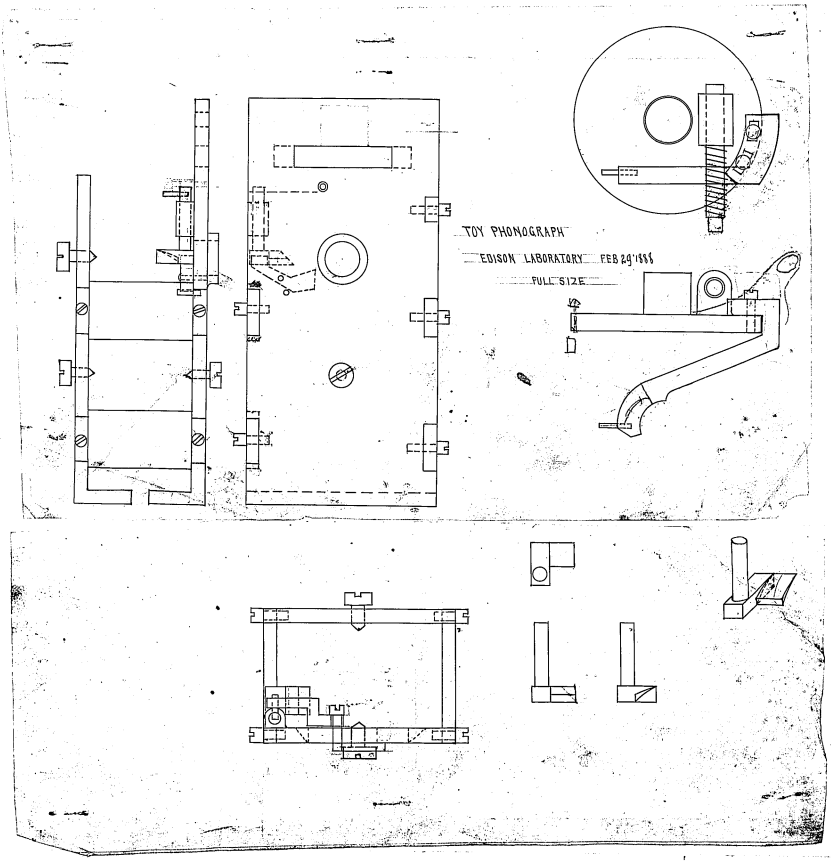
List of Requirements for experiment to be made for Mr. Edison

1) Coil heating experiment
1 dozen spools of wood with hole thro' shaft to take thermometer bulb.

2) Carbon grid for chromic acid battery.

3) 4 Leaden grids instead of iron to make a secondary Lalande cell.
Two grids to fit in one glass cell.

Finished
Feb 25. 88


TOY PHONOGRAPH
EDISON LABORATORY FEB 29 1888
FULL SIZE

Notes: Elihu Kennelly.

From the Laboratory
of
Thomas A. Edison.

Orange, N.J. 20th March 1888

Having given an experimental pyro platino-carbon cell in which the active surfaces were $\frac{1}{3}$a sq. in. of each element with a separation of 3/16" and which gave at a white heat an E.M.F. of 1.6 volts with an I.R. of 13 ohms, What would be under similar conditions the resistance and output of a cell 6 feet X 1, having three platinum and two stout carbon plates each 6'x1' whose own dimensional res: are assumed as negligibly small, thus offering 24 sq feet of active surface at a separation of 1 inch?

The surface of the imaginary cell would be 24 X 144 = 3456 sq. in: or 6912 times the area of the experimental cell. If the separation were 3/16", it would therefore offer internally

$$\frac{13}{6912} \text{ or } 0.00188\,\omega.$$

but the separation is to be 5th greater or 1".

Thus the res: will be $\frac{4}{3}(0.00188) = 0.0025$ ohms

The current this cell would deliver through a res: equal to its own would be

$$\frac{1.6}{0.005} \text{ or } 320 \text{ ampères.}$$

The external energy would therefore be $\frac{1.6}{2} \times 320$ or 256 Watts or 0.344 that is $\frac{1}{3}$rd of a horse power

No 21

✓ Soft Mexican alone

✓ Soft Mexican. 4 weight Boiled linseed melted.

✓ Soft Mexican - + equal quantity Coal tar

✓ Soft Mexican - 50 parts 15 pts linseed oil, [illegible]

✓ Copal Varnish 50 parts Soft [illegible] 50 parts

✓ Shellac 25 parts 15 parts Venice Turpentine 50 parts Soft Mexi[illegible]

✓ Large Cake Innoculation made by Cousins at Menlo part -

Coal tar pitch 75 parts 25 pts Soft Mexi[illegible]

Coal tar pitch 75 parts linseed oil 10 pts

Coal tar pitch 75 parts Cerasine 25 -

Varnished Menlo 50 pa[illegible]

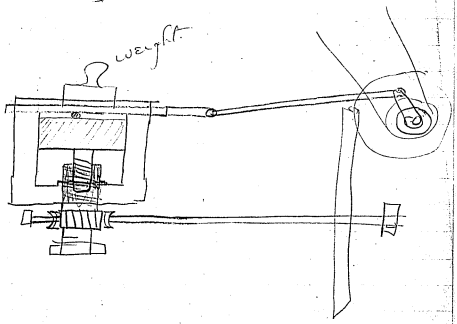
1888 Valley Lecon[illegible]

Filaments

John

March 29 1886

Design a machine for rolling out filaments 008 of plastic material like lamp black & tar. Don't say what it is for – Kinney will write it –



Mch 27/88

Wiley -

Get a piece of brass Sieving 80 mesh put it in the plating bath so arranged as to plate evenly on both sides & perhaps arrange to move it & deposit on it enough copper or nickel that the holes will be made so small as to equal those of 150 mesh or bolting cloth, you can get a sample of the latter & compare with a glass -

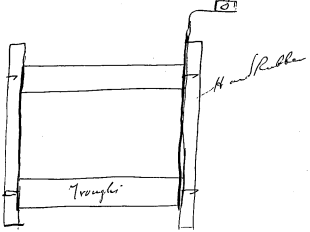
Edison

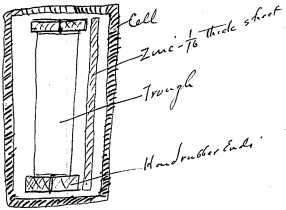
Also take a piece of silk bolting cloth - plumbago it well with the finest plumbago & see if you can put a coherent deposit over the fibres of Nickel or Copper - Especially Nickel so it remains flexible & still act as a sieve

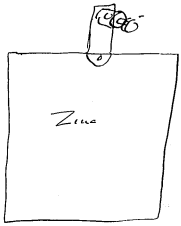
E

Kennedy. March 22/88

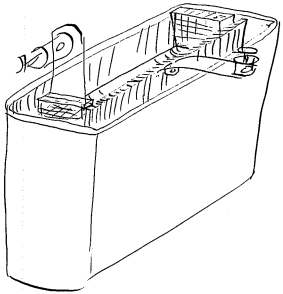
I want to try some changes in the Polarizing Battery Cells. Have Mr Ott make 25 cells this style & about this size — I think we have Hard Rubber cells that will just suit.



2



| | | |
|---|---|---|
| 3 | Cells are to have | tin troughs — |
| 6 | " " | Lead " |
| 6 | " " | Copper " |
| 3 | " " | Nickel, " |
| 1 | " " | Silver, " |
| 1 | " " | Platinum " |
| 2 | " " | Carbon " |
| 1 | " " | Cast Antimony " |
| 1 | " " | Thick Zinc " |
| 1 | " " | Clean Sheet iron, |

To take place of Zinc plates in different Experiments have —

| | |
|---|---|
| 3 tin plates | 1 Cast iron |
| 6 Lead | 1 steel |
| 6 Copper | 1 sheet Iron |
| 3 nickel | 1 Brass — |
| 1 silver | |
| 1 platinum | |
| 2 Carbon | |
| 1 Cast antimony | |

I want to use these cells to make experiments from time to time —

The first Experiments will be.

Take the 6 Copper cells —
put charge of Black Oxide Copper in the troughs and use amalgamated Zinc —
Then in first cell put 30 pct Solution Borax,
2nd Cell 30 pct Lewis for a comparison cell,
3rd cell, Bicarbonate Soda, 4 cell Cyanide of Potassium, 5th cell, Chloride of Zinc
6th cell, Chloride Ammonium —
After taking readings on these for one day on an exterior resistance relative to that of the large cells — Clean them all out well, reamalgamate the Zincs, & then make up another set with Cu oxide — in they 1st put 30 pct Nitrate Soda,
2nd Ammonia, 3rd Borate of Ammonia,
4th cell, Iodide of Potassium, 5th cell,
Acetate of Zinc, 6th cell, Acid Potassium Sulphite —

Clean them again — Reamalgamate Zinc but use in each of the 6 cells 30 pct Lewis but instead of Oxide Copper use in 1st Peroxide of Manganese, Nature. — 2nd Red Oxide of Copper,
3rd ~~Chromate of~~ Red Oxide of Mercury — 4th Magnetic oxide of iron — Blacksmith Scale — 5th — Lumps of Sulphuret of Soda or if we have it Sulphuret of Potash — 6th Sulphuret of Copper.

Clean & use amalgamated Zinc with 30 pct Cont
place in troughs — Chromate of Copper — 2nd
Fluoride of Copper — 3rd Arsenate of Copper
4th Antimonate of Copper — 5th Carbonate of Copper
6th Ammonio-citrate of Copper or oxychloride of Copper.

In case you cannot get certain chemicals
in last 2 sets experiments use as substitutes
Chloride of lead — Chloride Tin (proto) —
Oxide of Bismuth, — all the oxides of Bismuth,
Chloride of Mercury both proto & sub —
Oxide of Titanium, Oxide Antimony — Tungstic
Oxide, Molybdic oxide, Chromic oxide, all the oxides
except acid oxides Arsenic oxide,

5

In Nickel trough use oxides of nickel, with 30 pct lewis

In Antimony cell use 30 pct lewis & all oxides antimony –

Regarding the other cells I will give further instructions, There is no great hurry for these experiments

E

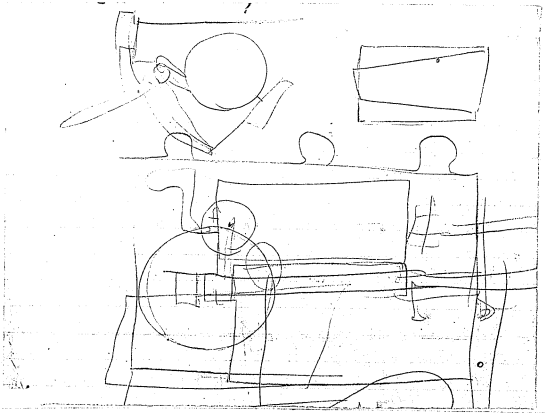
From

Apl 16 88
T&E

John

I want a hard Rubber shell made that is an Exact Copy of the wax Cylinder ready to go on phono. have it fit taper well & have a true outer surface I want to coat the surface with waxes also have a metal one made pay of Brass as hard rubber may give me trouble by Expansion

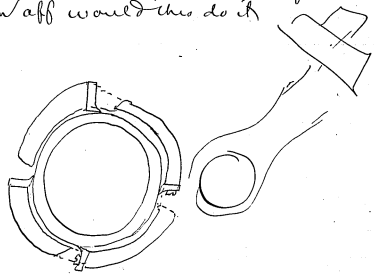
Have the Japanese furnished with some sheets of thick & thin tin foil so as to weight the sheets in the hot Microphone.



John Att -

Apl 16 98

Do you think an inside reamer could be made to turn way off while one plough day it has been tried by turning off taal & talked full & I wanted a new surface about 1/100 of inch must be taken off would this do it



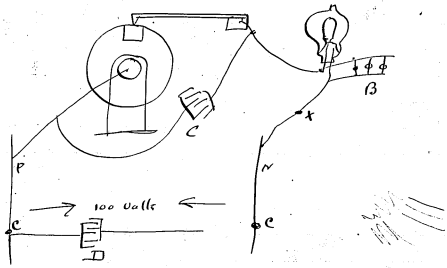
a handle on the end -

Mr. Young

John att -

April 16 '88
T.A.E.

Get a break wheel run by power




I want to see how much spark at break point when 1 2 3 or more regular 16 cp lamps are put on at B — Then with the addition of each lamp I want to see how much condenser must be added to stiff the spark —

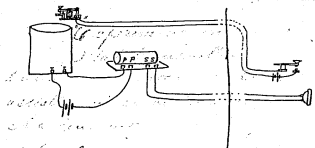
a Ray would perhaps answer as well as the break wheel, disconnect C + connect D of as many Microfarads as you have in laboratory + see what effect ~~spark~~ Condenser D has on the spark of an — I think it will make a spark on closing + stop it on opening — use regular line —

Experiment on
Hat transmitter

During the forenoon Mr Colgate assisted me as we tried actual speaking into the hat which one of us heard in the room of Mr Dixon through reciever. Several cases were tried in most of the cases I can hear the speaking but no words are clear, except a few such as hels. distinct

In the afternoon I had no body to carry the experiment with so I tried the choice of using tuning folk instead of human voice, but it was utterly unsuccessful on account of the lack of good sounding resonator & stand. Next I have tried to work a telegraph key from outside so that I can judge the sound by marking & breaking in the outside of the room.

Connections was like as follows;



First I have tried several kinds of cloth with graphite on simply & the result was

The most thin & tough cloth serves the best

Then tried the change of amount of graphite on & there was found no great difference except the cases of very deffisient amount & very superfluous amount both of which were no good.

Next I have tried the effect of having tin foil on the back. This noticeably increased the efficiency. While tin foil seemed to be the best. The increase in number of foils did not improve much, until when the number get too large it seems to destroy the effect to certain extent

I have also tried the effect of guard ring over the edge: it dont make much difference, but it seems to be better without the ring (cloth & tin foil hanging free & bare in the metal ends).

Next I have tried the effect of sprinkling sand over the tin foil. This decidedly improves the sound & seems to give much accurate sound.

Lastly I have tried the effect of ~~cutting~~ applying cut tin foil instead of single piece. Like Thomson's Quadrant Electrometer. In this case sound was quite distinct as in the former case.

Besides these several minute points were tried such as the way of keeping hat in speaking &c &c. It proved to be better not to keep hat too tight nor keep too rigid. In every case it is better to give good change of vibration.

In any case I ~~can~~ was not able to hear every sentence clear. In the best case I can understand a few words in a sentence & most of separate sound when pronounced clearly. And even in the worst case the make & break sound of the sounder can be distinctly recognized.

The distance at which we have to speak seems to differ in different state of & position but generally within 2 3 inches near the outside rimb. In a distance beyond a ft we can hardly hear anything even (in case should it be) spoken very loudly.

April 15th 1888

K. Sawai

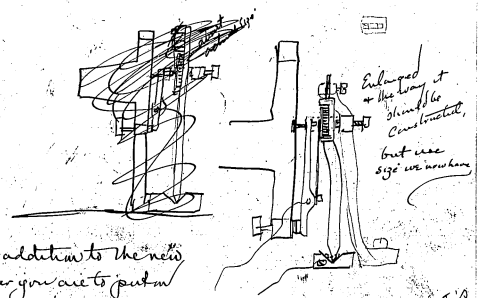
Telephones by TAE I

Apl 19 88

John

You will have to attend to those Experts on telephones - so as to get the little Japanese started right -

In addition to the lever on platinum point you better arrange the Carbon button in the same way - Thus




In addition to the new lever you are to put on platina bracket

make this rigging in case the lever doesn't give good adjustment

HS 'det's 15 vr. dr

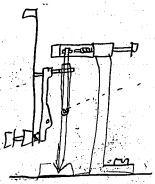
next page

1 = 72
2 = 64
3 = 48
4 = 36
5 = 32
6 = 40
8 = 32
10 = 32
10 24
12 24
12 20

Telephone by TAE- 2.

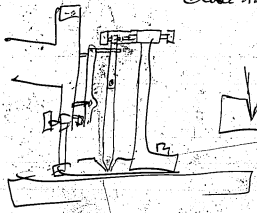
John Gott 2
April 19 88
JOG

120

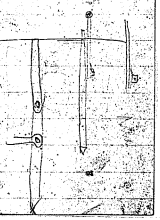


spring to put pressure
on point will work
no matter where diaphragm
is

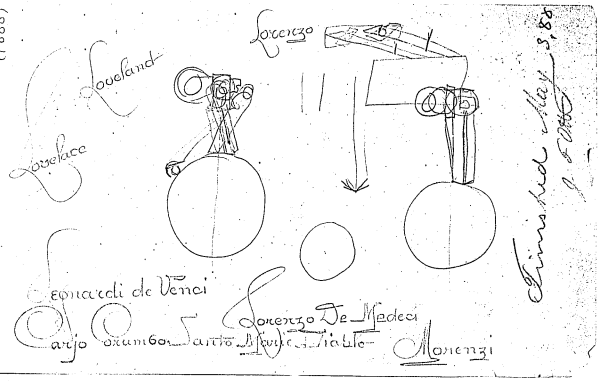
the sliding friction should be
close to point



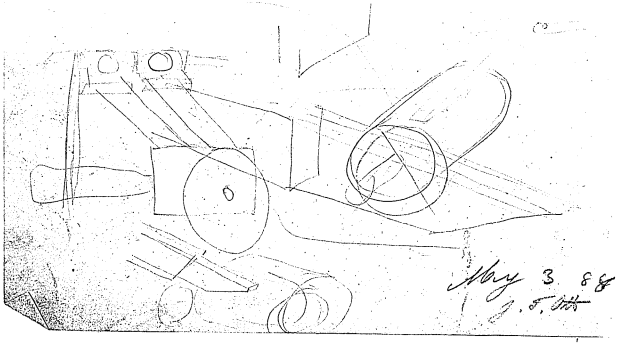
very sharp point



(1888)



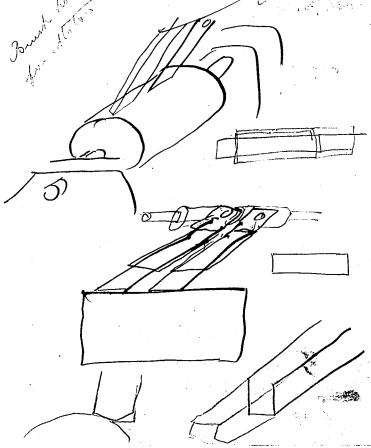

(1888)



From the Laboratory
of
Thomas A. Edison.

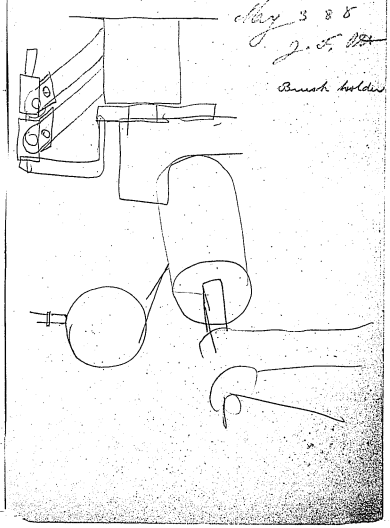
Orange N.J. May 2 188 8

Brush holder
for [illegible]



Finished
May 3 8 8
J. F. [illegible]

Brush holder



52 / 1935 } 3.7
156
37
364
11

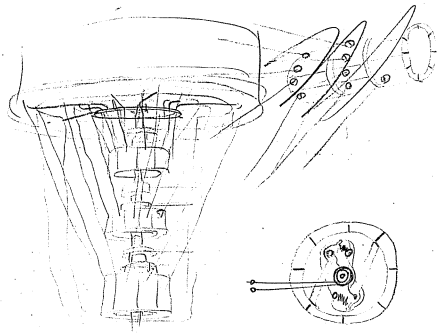
3.7 times heavier

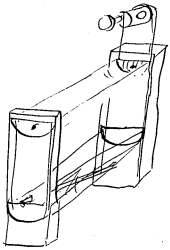
gold 19.35
Opals 2.65
Galena 7.6
Barite Sulp 4.6
Fluor Spar 3.1
Clay 2.0
Kaolin & Pyrolusite - 3.8 @ 4.0
Calamine 4.2
Pyrites - 4.183 - @ 5.2
Calcopyrite 4.1
Mispickel 6. @ 6-4

Mine of Colorado
May 21 - 1888

2

Thomas A. Edison
May 26. 1888

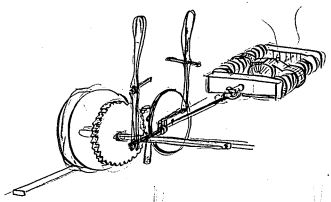


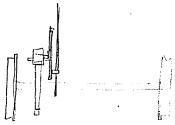


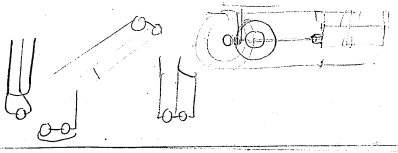
Maria E. Edwards
May 26 - 1888

Thomas A. Edison
May 26 - 1888

Thos A. Edison
May 26 - 1888

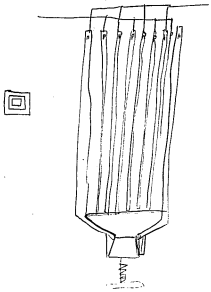


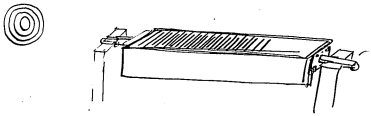




Thomas A. Edison
May 26 - 1888

11.290





Thomas A. Edison
May 26 - 1885

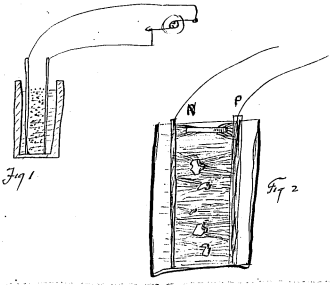



Fig 1

Fig 2

Thomas A. Edison
May 26-1888

1 ohm 100 square inches –
1 square inch
1/2540000 ohm –

1 ohm
3 amperes.

3 M
3

100

1/100,000,000 of ampere –

1 ohm total ~~100~~ 1 ampere –
100 square inches 1/100 amp
1/1000 equal 1 millionth of ampere –

100 ohms per square inch.

1 ohm per square foot,

1/100 ohm per 150 lbs ore

1 10 millionth of ampere –

1 Volt on 10 m ohm

3 Volts.

| | |
|---|---|
| 1 | 10 |
| 2 | 5 – |
| 4 | 2,500,000 |
| 8 | 1 250,000 |
| 16 | 625,000 |
| 32 | 312,000 |

9
44
37 | 60.
13
1980 0.

150) 2250 (15.
150
750
750

44
3
3960.
96
23760
23760
35640

380) 60

8 hp for 150 lb –

2
1 hp per ton, for 10 hours

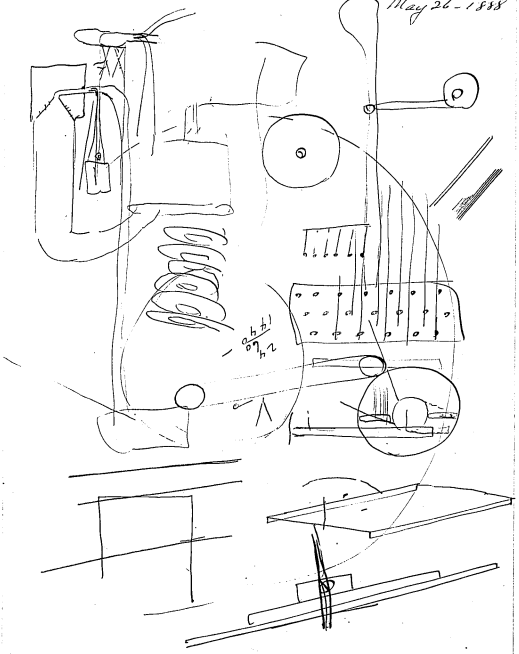
32 Cells on
812 000 ohms

4.50
300
135 0 0 0 4 1/2

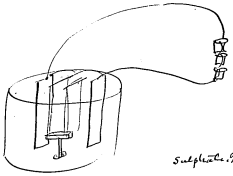
3 5000 cents.
1350) 10600 c/ 8c per ton
9450

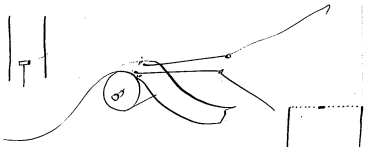
35

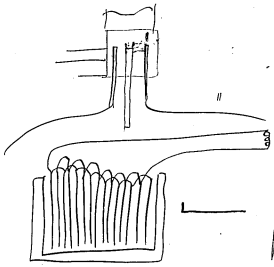
Thomas A. Edison
May 26 - 1888



Thomas A. Edison
May 26. 1888





$\frac{1}{500}$

$\frac{1}{100}$ $\frac{1}{32}$

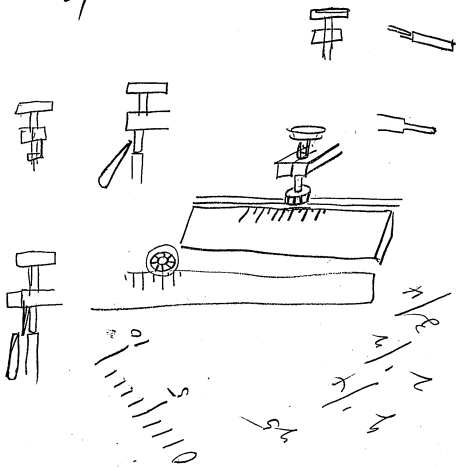
$\frac{1}{5}$ $\frac{1}{15}$

| | |
|---|---|
| Phono | 4.58 |
| Motors — | 1.29 |
| Battery | .32 |
| | 6.19 |

Thomas A. Edison
May 26 - 1888

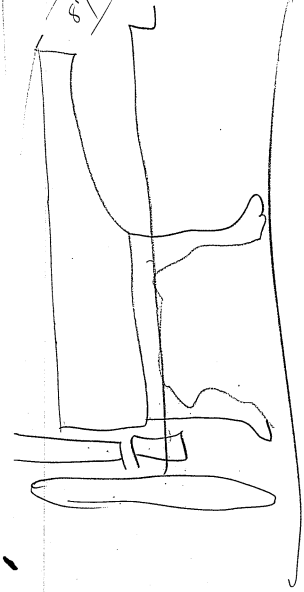
6250
6
37500

6250
5

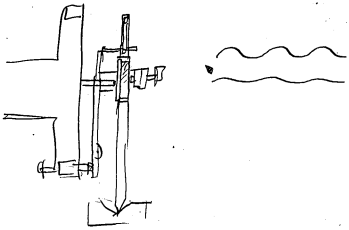


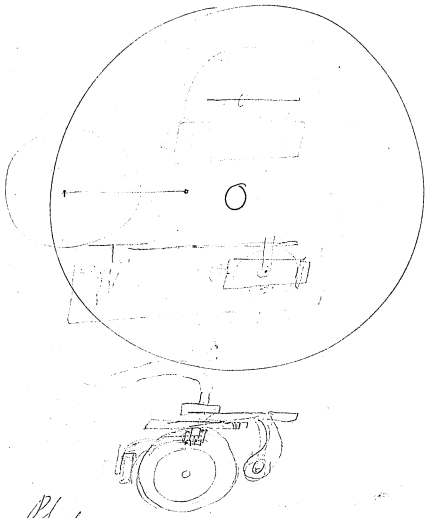
8760

Thomas A. Edison
May 26 - 1888



Thomas A. Edison
May 30 – 1888





Plat illustrating to
Reg phone
June 1, 1884
Fig 9 of 10

"Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject. _____ Orange, N.J. _____ 188

(1881)

Ore Separating

Cable Address "Edison: New York."

# From the Laboratory of Thomas A. Edison.

Subject, Ore Milling. Orange, N.J., June 11th 1888

The accompanying samples of Iron ore, passed thro' the "Edison Magnetic Ore Separator" along with the views taken of one of the plants now in successful operation, give an adequate idea of the modus operandi.

The Iron ore is broken ~~then~~ deposited by means of a chain of buckets into a crusher of the Blake type; thence precipitated down a slide into a circular inclined sieve (10 mesh), 5 feet Diam. and 7 feet long, making about ~~[illegible]~~ 12 rev. a min.

The sifted ore is then caught up into iron buckets in a similar manner

to the one already described, depositing its load into the hopper, whilst the unsifted parts pass right through the drum, ready to be caught up and recrushed, thus making the process continuous -

The ore on reaching the Hopper of 30 cubic feet capacity (7 × 3 feet) is then allowed to fall at will thro' a slit 8" wide by 6 feet long in a straight stream, passed a powerfull Electro Magnet, and checked at any moment by closing the aperture or slit with a rubber edged brass bar, from below -

All the Magnetic or Iron particles are drawn over towards the magnet; but not allowed to cling to it, merely diverging the former from its course, whereas the Diamagnetic containing principally quartz, falls in a straight line, forming two distinct streams which are

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J., _____ 188

Kept permanently apart by means of a Divider, as shown in view -

The Electrical energy required to saturate the magnet would be about 3 H.P.; tho' the strength of the magnet is easily regulated to suit the ore -

A long perforated iron tube, thro which a constant stream of air is passing, is placed directly above the magnet in order to drive off the fine dust -

With the plants referred to, 180 tons of Iron ore can be crushed and sieved to a No 10 mesh - and separated in 24 hours -

Iron ores containing 1.07% phosphorous give by analysis after separation .006.

It would be superfluous here, in giving an outline and description of the plant, to mention the various kinds of Iron ore that have been successfully worked

W. L. Dickson
Ore Milling Dept.

Reproducing Plunger
June 20 1888
T.A.E.

June 25/88

Dyer —

I want to take out a patent for the new Dynamo with some modifications —

1st ring formed of oxidized iron wire, 400 turns wound simultaneously from 400 bobbins — This makes 400 plates so to speak formed of wire not electrically connected — The reduces foucault currents to minimum — The armature is a perfectly even one in diameter etc mechanically speaking — so also quickly wound it would require 400 times as long to do it the old way —

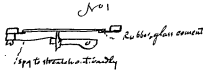
2nd Coating the Field in 2 halves —

3rd method of winding Field

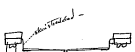
Bottom wire goes in first pair

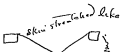
# Ideas for Articulation Experiments on Phonograph

No 1

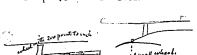


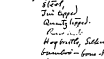

No 2




Steel 004 to 006 dia —





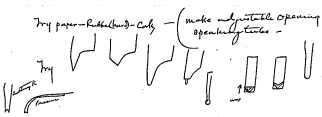

Smaller Reverse type Phonics but made in regular way — glass receiver —

Felt reverse shape
Cork shape
Oyster shape
Lobster shape

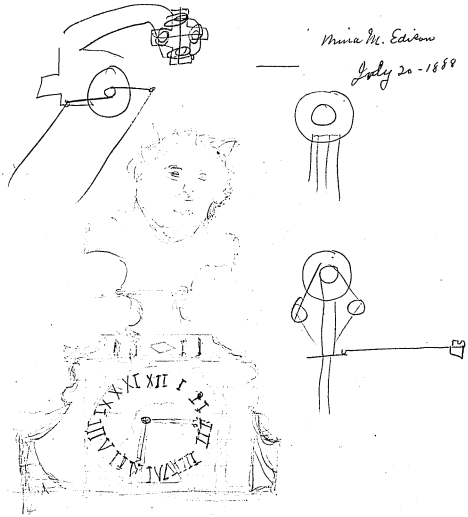
Heavy Silk Shelled shape for Speaker —

Spaces & Spectrums
use Larger Diaphragm for tones
in Ring way —

Try paper — Rubber (hard) — Cork — (make adjustable opening at bottom
open bottom —




Lorenzo M. Gallo
July 20, 1888.


Mina M. Edison
July 20 - 1888

(No. 110)

Maria M. Edwin
Aug 27, 1888

Sept. 8th/88 No 1

Form:-

| | | |
|---|---|---|
| Nitrate Mercury | 5 | grams |
| Pyrites (gelbe one) B.D. | 200 | " |
| Water | 500 | c.c |
| Nitric acid (or HNO3 %) | 10 | " " |

—

Stirred for ½ hour - & allowed to soak over night -

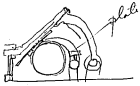
liquid drained off and put on filter in a muslin bag - then into centrifugal machine - 9 min. ½ hour - residue very dry -

liquid taken off 1st time - with machine } = 200 cc

liquid gained by centrifugal machine } = 40 cc

original amount 210. 250 cc

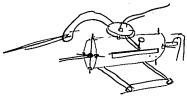
Phono Comment Sept 9 1928
TAE



Double row points where points meet.
spaces in between to allow of expansion

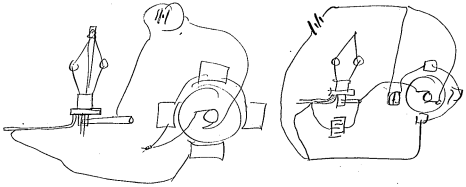
false shell with
roughened surface w points.
~~to clamp phonograph~~ phonograph mount. & each ring
~~to grip~~ OK.

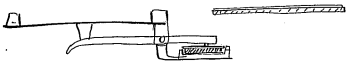
platmachine have roughened surface of
fine points to keep phonograph ~~blank~~ down
also oil — also holes & air suction, also
pressure to press it flat near point



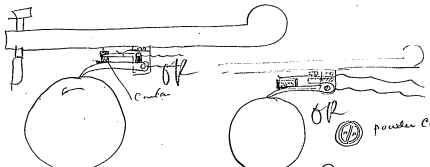
OK

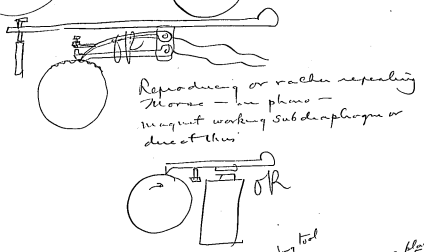
Phaeton paper cylinders or shells with grooves like old phono put on them then Coated with thin sheet Oleate Salt also glue & glycerine, also films of / Chloride Sulpher on Asphalt mixed with a fatty oil - also flexible Collodion - Balata + a salt of Oleate palmitate or a wax or Hydrocarbon mixture or Salt mixt + film dried -

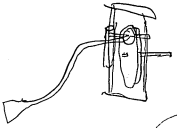


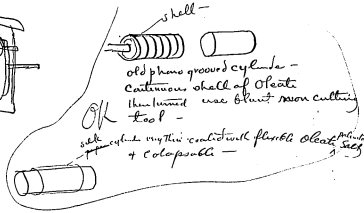


desk machine
heavy paper -
covered with
[illegible]
[illegible]

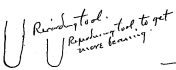

Carbon
OR
OR
powder Carbon -

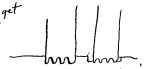

Reproducing or rocker repeating
Morse - Im phono -
magnet working subdiaphragm or
direct thus
OR
Rocking tool
turning tool tracks in spiral flat
this prevents jumping of
Record bottom on cylinder
or flat plates
X belonging not on
spiral groove but on
bottom of spiral
groove





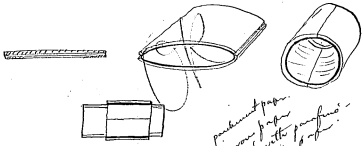

Woven flexible cloth blank
~~Woven flat cloth or~~ Oleate Plunger
Coating flexible —



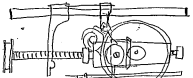



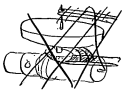
Steel Cylinder
OK

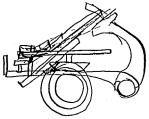
Notes phase Cancel



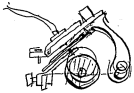
parchment paper
or paper paper
filled with purfumes
or incense paper







Decorbe th =

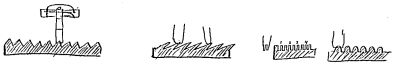


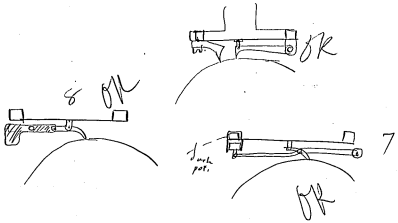
January '66
analysis of
pattern

Sketched belt =

Notes phono
Cement

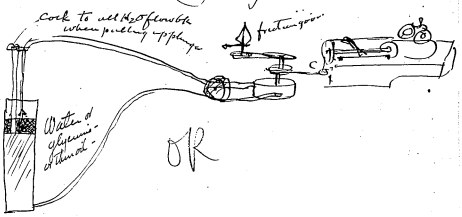
on big phonograph / One knife $\frac{1}{4}$ inch in advance
looking principal chip other edge close to knife but
one knife (10) 1 Knife 2 Cutting edges —
In preparing big Cylinders turn off with
several knifes like a chaser one little deeper
than the other — Turn inside with knife
working on a taper guide —



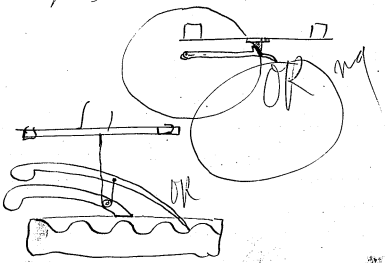


Lelph mat, recording by several dif quality sounds
High notes, Low notes, Several dif sounders —
also Record Composite tuning fork sounds & then
reproduce them by tubes running to diffrns connected
to tuning forks — also as Morse Repeater recg from
London & then transforming to Brit wire the regulating
being done by Indclm coil & Carbon button or better make
indentation with lines & pointing points / diaphragm under diaphragm
Telephone Recorder, phono left ready on ringing Call Bell
bell. release line closes ckt & connects —
Receiver to phono. runs until ring off —
~~Several tubes~~ Swinging large funnell
for Music, Metallic connection no braided
tube — Metallic funnell bound with Cord
& other deadening Material.

Sept 11 1888 Tal Thomas A Edison,



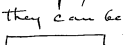

an agate or Saphire or Jacksonville Cutting tool point -



Sept 11 1888

Through Caucat -

A cylinder of paper ~~was~~ of say $\frac{1}{64}$ over this a thin sheet of paper put on tight & fastened by lap & cement. This is coated with recording material turned off thin & then covered by a new sheet of paper & this covered with with recording material & so on until a composite cylinder is built up $\frac{1}{16}$ inch thick the end X slip out so they can be turn off & expose



a fresh recording surface from time to time

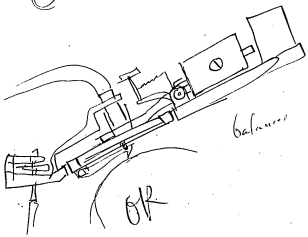
Sewed Belts - Sewed Belt with silk surface - Crowning

For tracing dipped paper phonograms -
dip in Recording material. then put in a polished mould & Run in a taper to force paper to prop taper & true the wax - use a press -

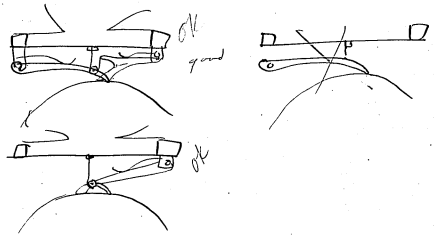
Niro Cove al
Sept 11 1888

Phonogram blanks for giving a surface (10) material outside of recording surface, Hot asphalt moulded by pressure, detts mixed with powdered mica, saw dust, lime, talc, Cylinders of plaster Paris, detts soaked in asphalt in a solvent linseed oil & other things to make them impervious to moisture, paper wound on a mandril of several layers white paper, — detts paper soaked in paraffine, oleate lead, linseed oil oxidized afterward by chloride sulphur fumes, Rosin hot, and also of the same material the recording surface is made of — Rosin & Paraffine, Rosin & linseed oil, Castor & olive oil & then treated with hypontric acid any fatty oil made solid by the chlorinating agent like perchloride of antimony or chloride sulphur, Paper soaked in hot asphalt solution, in any resin or gum made soft by a solvent or semi solvent or a mixture with a softer body when hot which on cooling will become what flexible —

Thomas Cavent



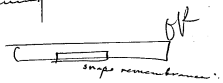
Sept 11 1888 Phan Caucat



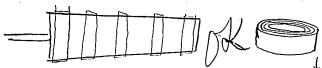
Notes for new phona patent.

Off made of material same size as the width of the point.

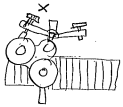
Centering device -



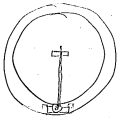

Have I patented a removeably secured Reader Reproducer - Sewed belts, sewed belt with silk or cloth surface - Crowning pulleys.



Neat of paper Cylinder for winding –

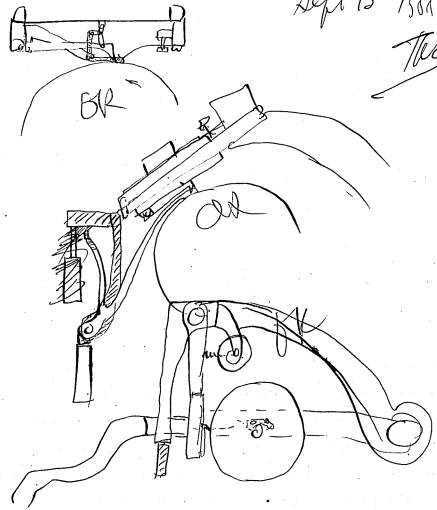



Strip paper wound spirally. Return screw wound with proper pitch act X behind each return for winding wound strip put on pull box to carry up or other through – to use a receiver independent some way but if strip distorted have a big side movement to receiver.



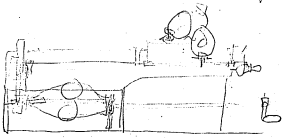
Side movement Cut has smooth top of shaft or wheel etc.

Phono Concept -
Sept 13 1988
TRE

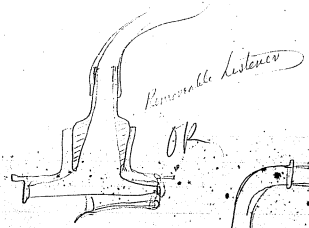


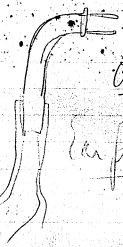
Phono Concert. — Sept 13 1888

TAE

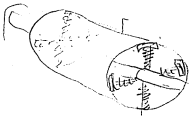


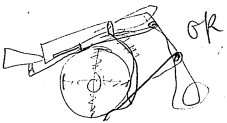
Hand Machine -

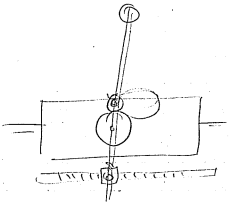


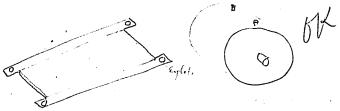
Phonograph Caveat

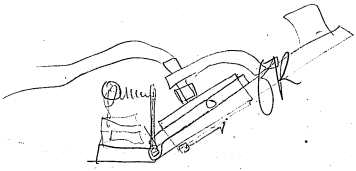


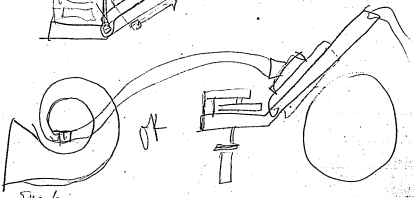


Phenogt Circuit






Speaker

6

68.85 / 6

70.85
20
3142.00
785.
1103.9
70
7.80
1103.9
132.67

7.

120
50 1200

75.
52
150
375
390
34.40

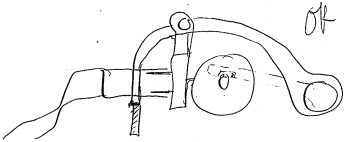
25.00
40.00 Tab
20.00
85.00

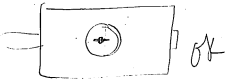
52
20
100

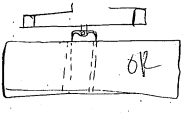
11.46
9.
20.46
2.8
20
560
28
32.60

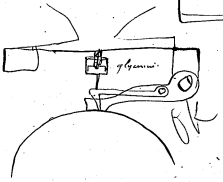
115
20
2300
115
161.

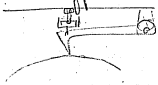
160
12
1920


OK

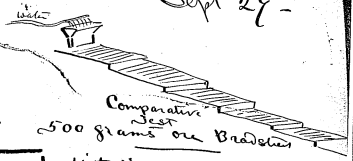

OK


OK
double track,
double Receiver
print


7 Genuine
OK


OK

Sept 27 -




Comparative test
500 grams ore Bradstreet

**No 1** With nitrate of Mercury
Without nitrate of Mer.

Without nit.

Took 500 grams ore - Brad.
went over plates 3 times -
Weight of Mercury before 400 grams
" " " after 3/8 "
Weight of gold =

**No 2** With nit. of Mer Sep. 25

500 gr. ore - in
500 " water
10 " Nit. acid 2% Nit. Acid
5 " Nit. of Mer. 1% Nit. Mer.

Ag.S. = Sulphuret of Silver
undecomposed

Sb.S$^3$ = Cinnabar, Sulphide of Arsenic
somewhat volatilized, unchanged

FeS$^2$ to FeS. not further reducible

Pb.S. galena - when roasted is reduced to a lower state of ox.

PbS. part of lead separating out in a metallic state

Sulphide of Zinc or Zn blende
remains undecomposed

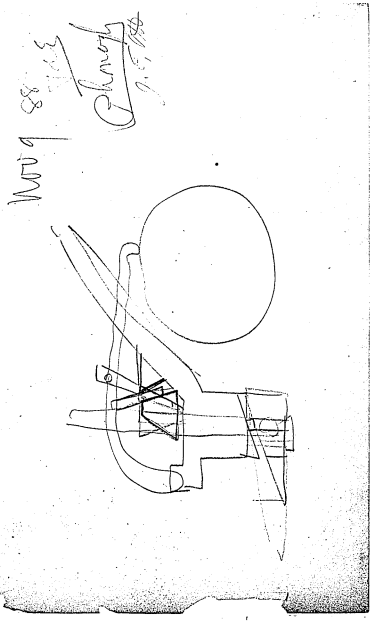
Cu glance retains its sulphur & Cu
Pyrites loses only one part of the sulph. which is combined with the iron in it.

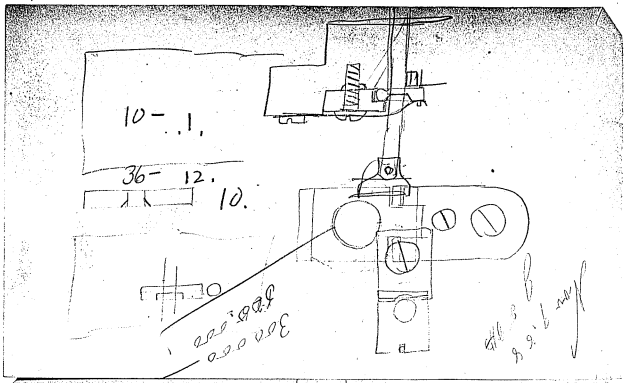
Roasting of Ores Oct 4/88

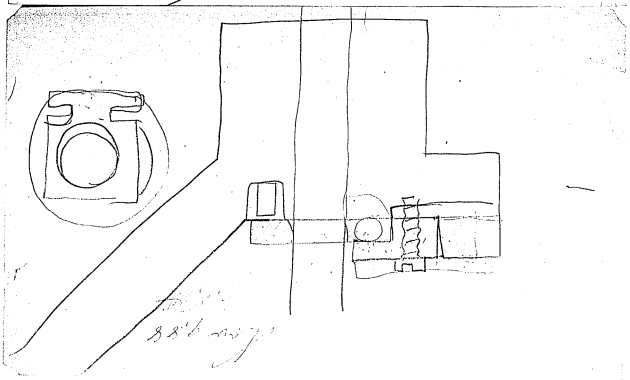
Treated according to the predominant Gangue such as Calcarious ores -
quartzose or ochery ores -
or according to the predominant metallic mineral :- as Sulphuret ores Chloride ores Carbonate ores -

= ═══ =

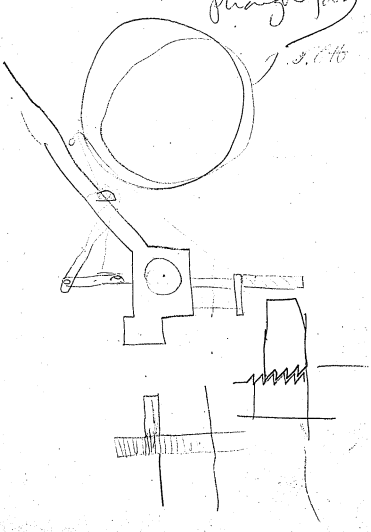
Stephenite, a sulphuret of silver & antimony (brittle silver ore)

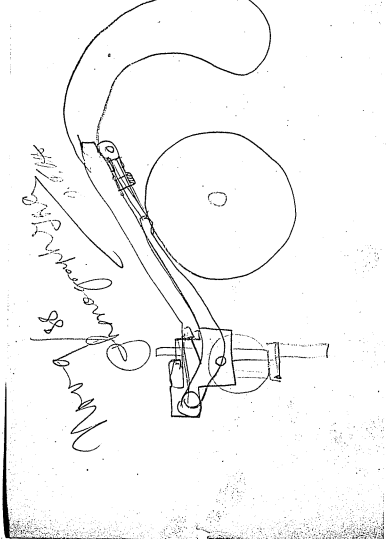



10-
36-
12.
10.



Nov 9. 1886

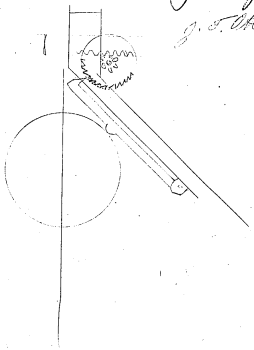




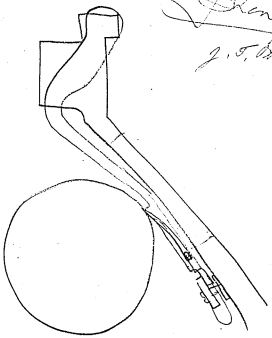
Nov 9 1888
phmo
TOY

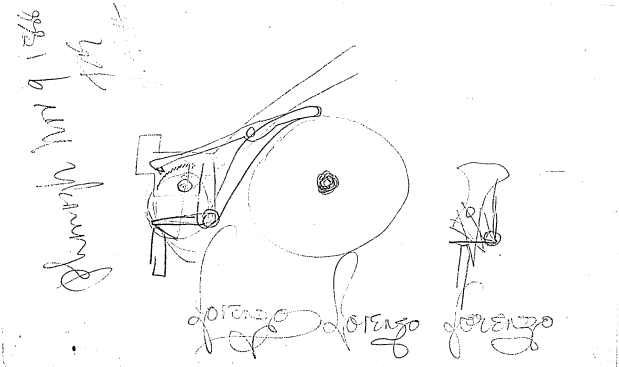
Nov 9 1888
Thomas
J. S. Otto

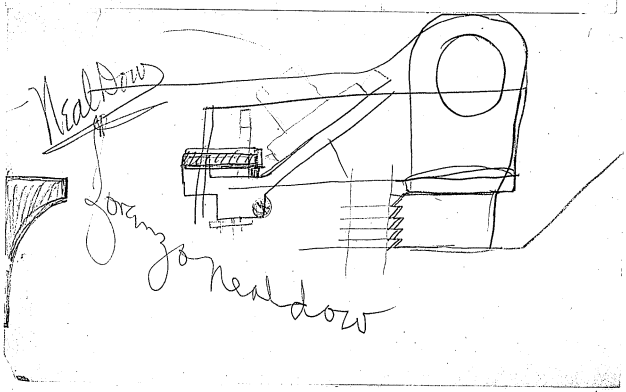
1



Nov 9 1888
Thomas
J. S. Otto



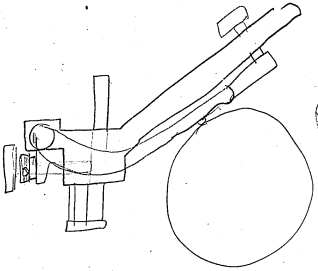

LORENZO
LORENZO
LORENZO


Neal Dow
Lorenzo Neal Dow

Leonardi di Vinci
Leonardi di Vinci
Leonardi
Leonardi
Lorenzo de Medici Medici
Lorenzo
1
2 1/2
20
1 1/2
1/32

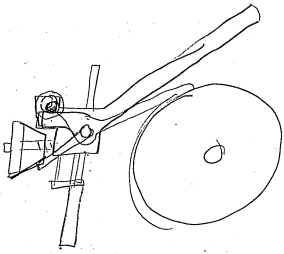
Phenoghnan 10
1888
Tal
J. F. Ellis


Nov 10 88
Tal Appleard
J. F. Ellis



Phenomenon 10-88
J. E. [illegible] 1989

Nov 10 88 Fa 2 plength
J. E. [illegible]



Through Nov-10
1866
Fig 3

Nov 10 88


Nov 10 1888

Nov 10 88
J. F. O'H
Wheel spring

Nov. 15/88

- Exp. -

1st Select from "Randolph Union" one a chip off each block, to get a fair average - as already explained - total to weigh about 2 lb. -

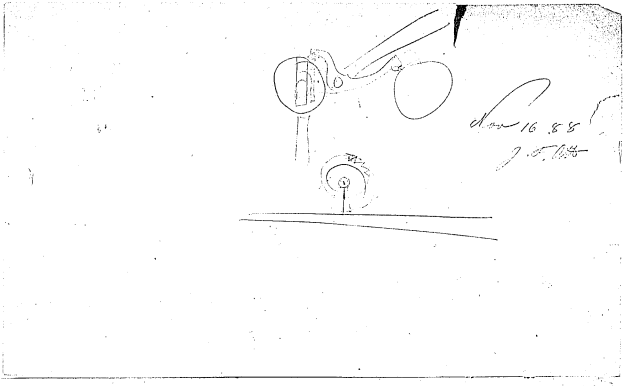
2nd Crush to pass all thro' No 10 mesh - creating as little fine dust as possible -

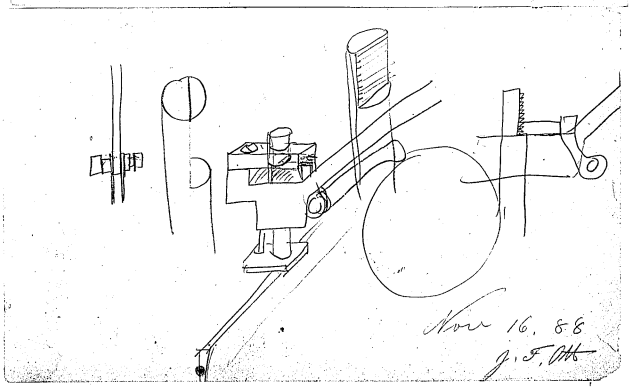
3d Make separate heaps, sifted thro' No's :-
#10, #20, #40, #60, #80, #100
#120, #140 -

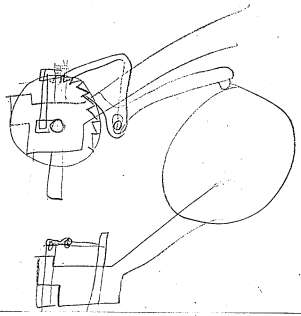
4th Roast each heap "dead" -

5th Take part of each heap, each weighing equally, grinding same in agate mortar, placing them in separate dishes - labeled :- No 10, ground, #20 ground etc

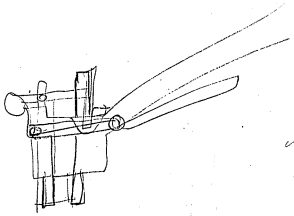
6th Be careful to mix thoroughly each heap - so as to get a perfect average -


Nov 16 88
J. F. Otto


Nov 16, 88
J. F. Otto



Nov 16, 88
J. S. Ott



Nov 16, 88
J. S. Ott

Nov 16. 88
J. S.


Jan 17 88
J. S. Hill

Bessemer - on Milling

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J., Nov. 24th 1888.

Changes made in Ore Milling Outhouse -
- Room 22 -

1 - Means of regulating and moving magnet at a moments notice -

2 - Scales graduated to accurately determine position of "magnet" and "divider" (glass covered to keep out dirt)

3 - New Divider with easy means of regulating amount of "Mug-ump" - (graduated) also trays for "Mag. & Div." for daily work -

4 - Every ore carefully examined and stenciled - also entered in book -

5 - Closet (shelved) to keep samples after separation and Exp. for reference at any time -

6 - Shelves for large box samples -

7 - Bell at door to call attendant, also

Connected with room 18 -

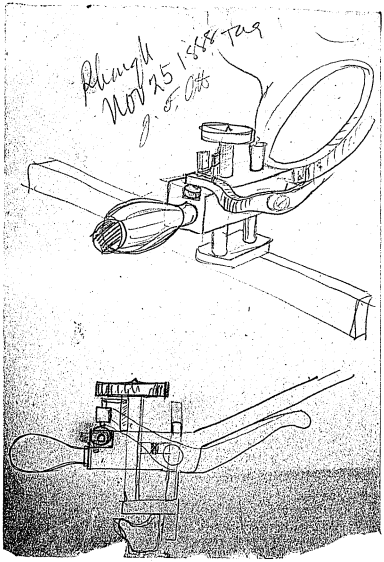
8 - Table to place samples on for Examination.

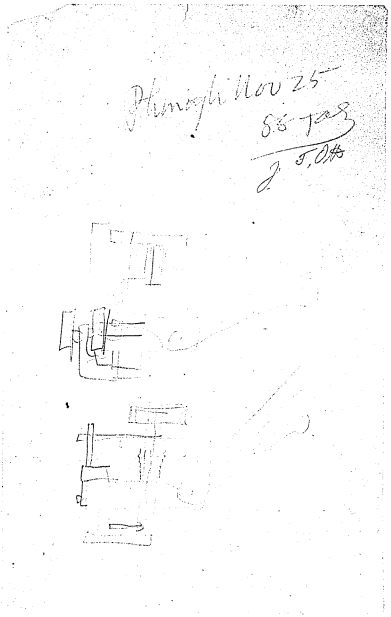
9 - Door bolted and fastened between Blacksmith Shop and Metallurgical Dept.

10 - Register for Visitors - appointments - & ores coming in.

Submitted Nov. 24th/88

W. L. Mickson


Plimyth
Nov 25 1888 Tag
J. 5.00

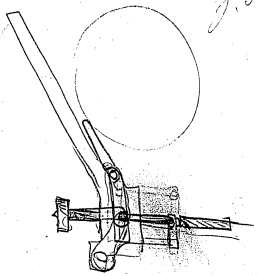

Plimyth Nov 25
88 Tag
J 5.00

Plough 1160 25-88

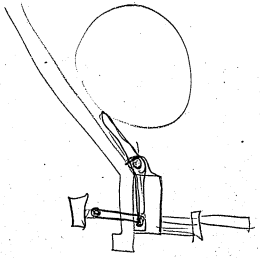


Plough 1160 25-88

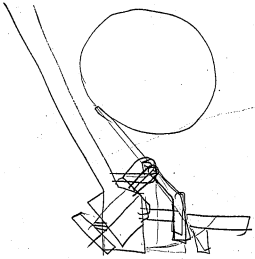
Phmogh Nov 25
88
JAB
J. F. Ahs



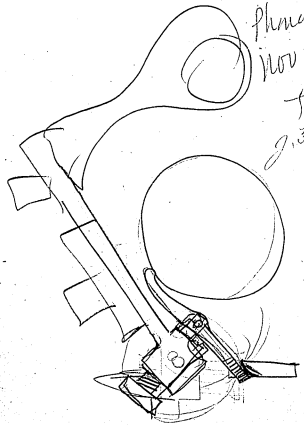
Phmogh Nov 25 88
JAB
J F Ahs

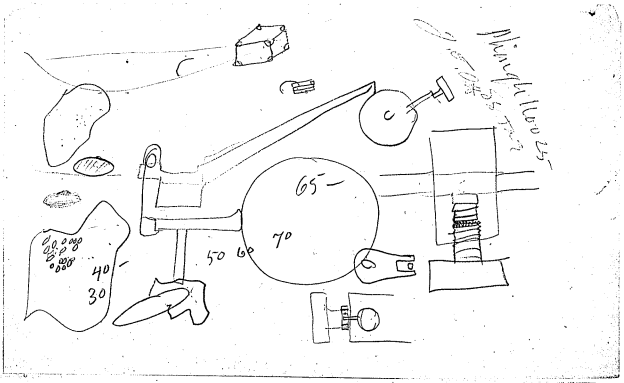


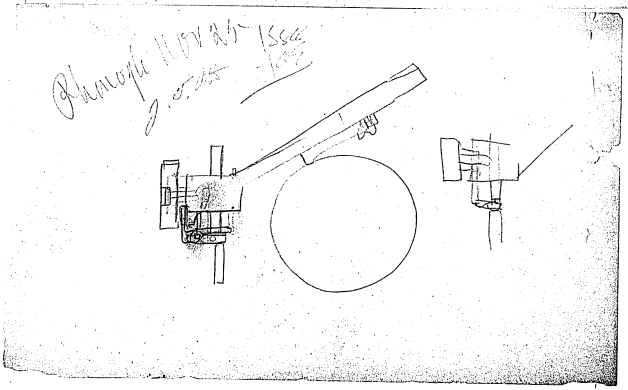
Plmogh Nov 25-88
Tas
J. 5.0#

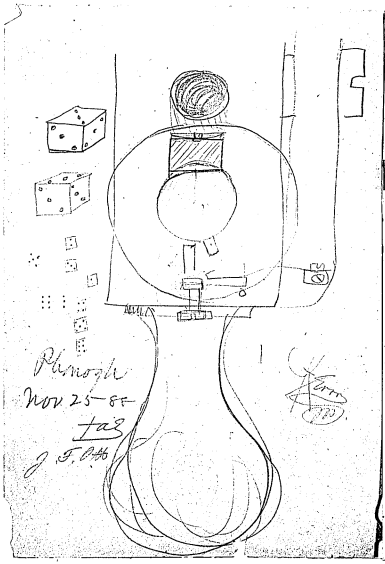


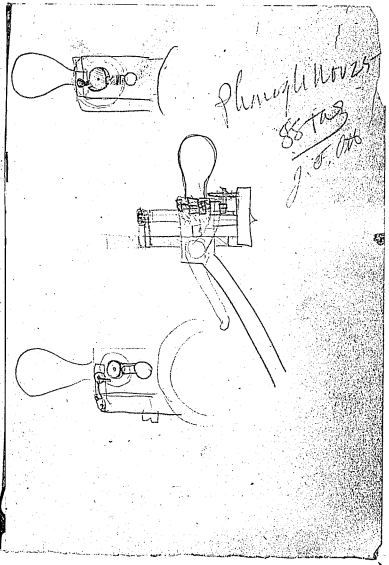
Plmogh
Nov 25-88
Tas
J. 5.0#

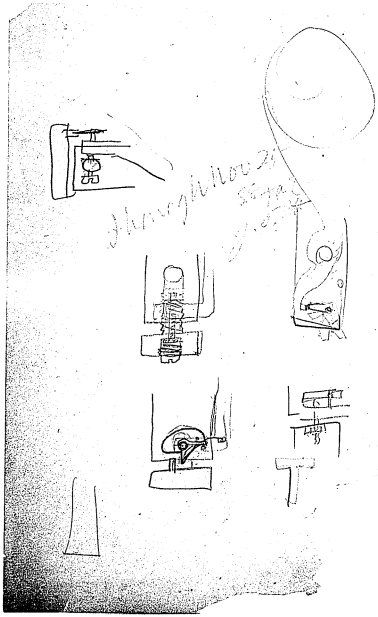


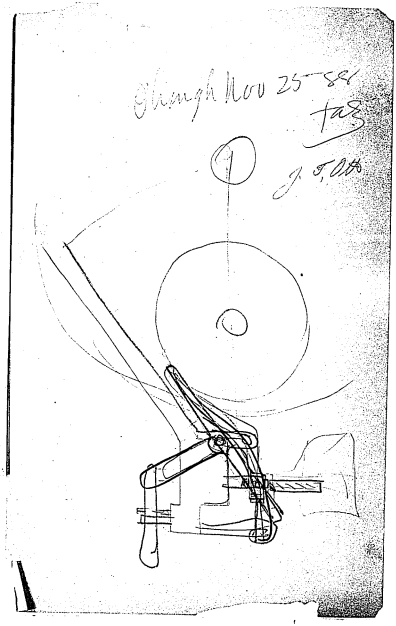

65
70
50
60
40
30



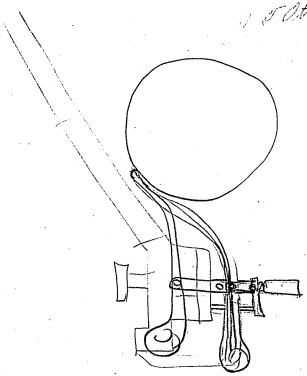

Plunogh
Nov 25-85
tas
J. S. Oth

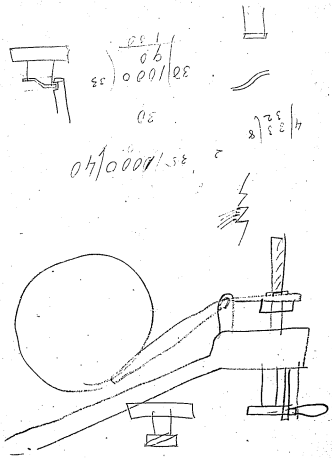

Plunogh Nov 25
85 tas
J. S. Oth


Through Nov 21


Through Nov 25-84
1
J 5,0A

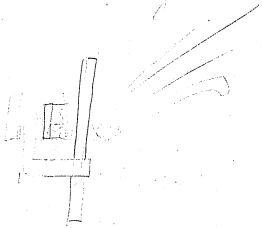
Plough Nov 25-
88
tag
2 0.00

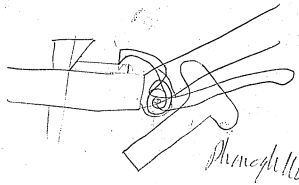




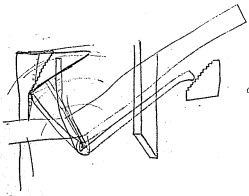
Plough Nov 25-
88 tag
2 0.00

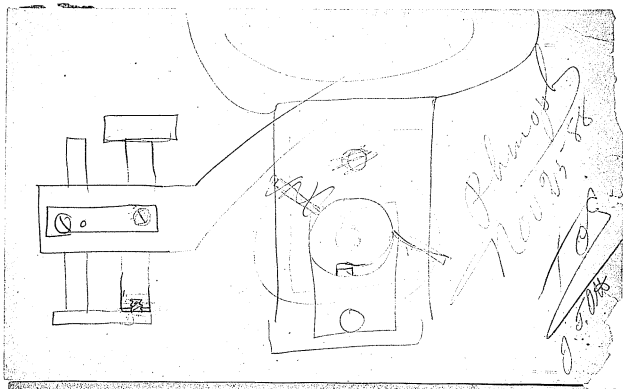
Phnogh Nov 25.
55
J.T.Ob-pee

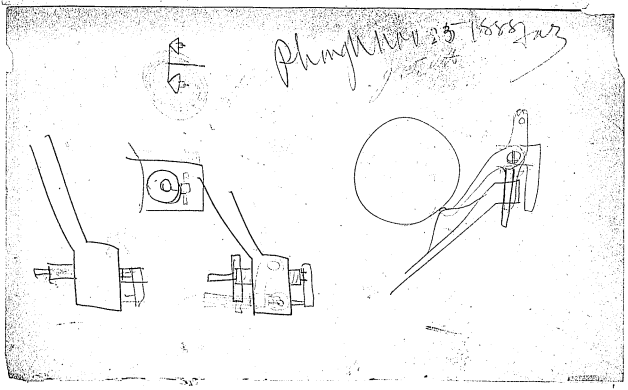


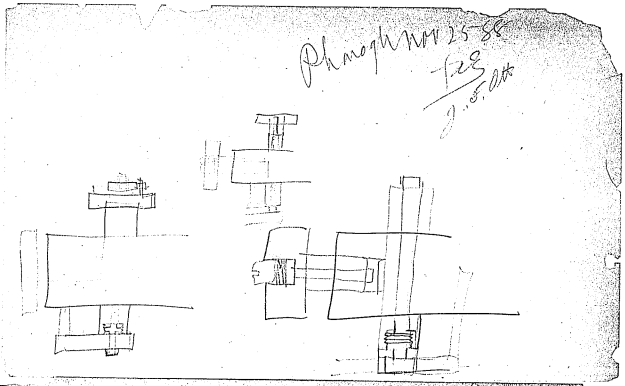


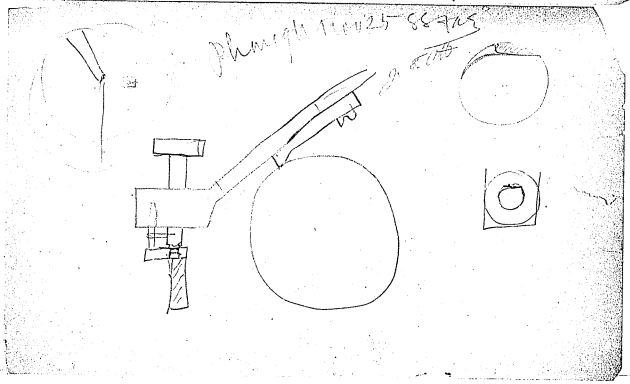
Phnogh Nov 25
55
-pee
J.T.Ob





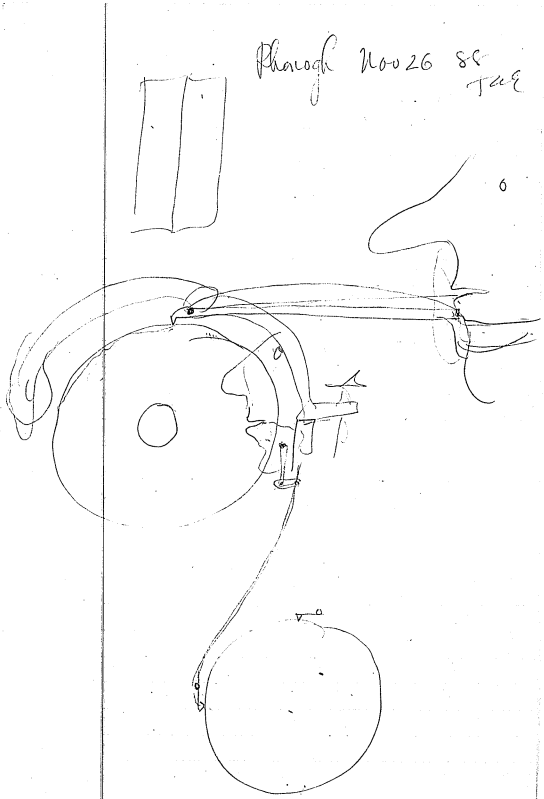



Phmogh MM 25 88
-28
J.S.Oh


Phmogh 1:MM25 88 925
J.S.Oh

70
70
70

Phanogh No 026 S.C.
Tue

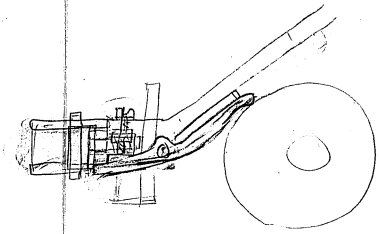


OK

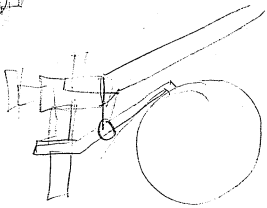


OK -

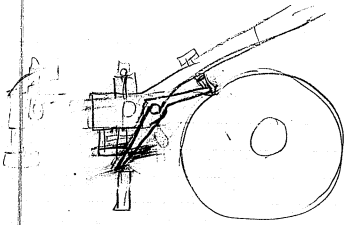
Nov 26 88 please fax



OR



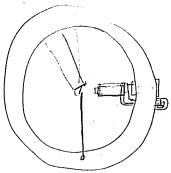
Pharo Nov 26/58



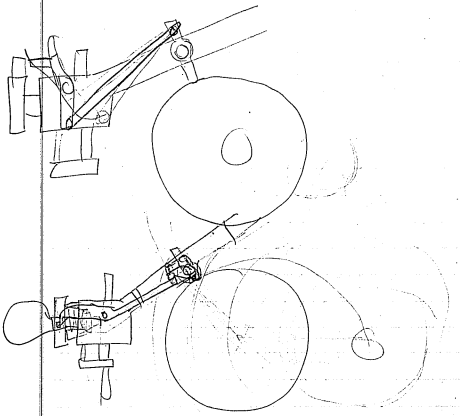
Phaseolus Nov 26 88
tag

Nov 26 58.
Phono
Tag

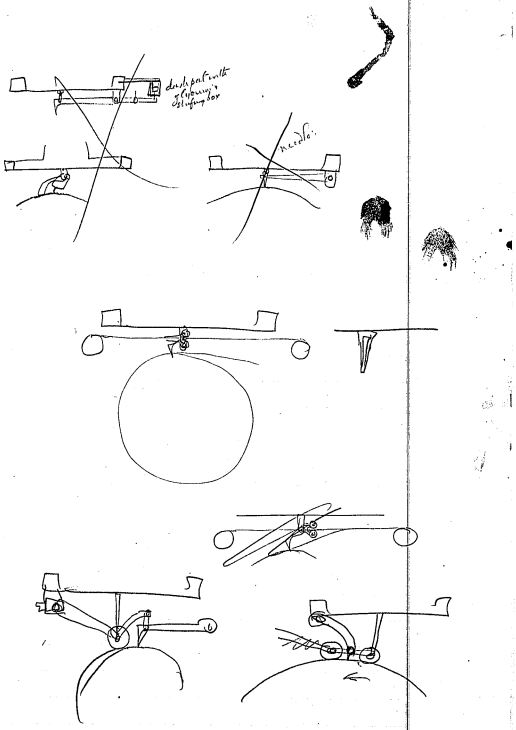
Phonogh Nov 26 58
JAB



OK

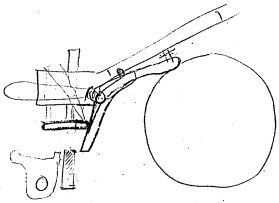


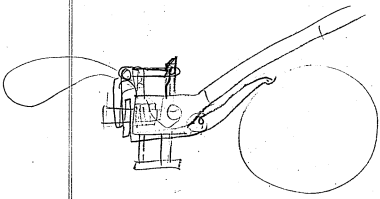
Phenoglll00026 SS pcs



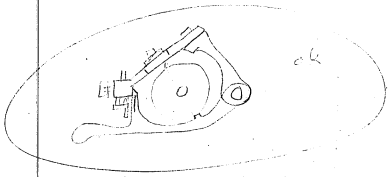

125
50
175

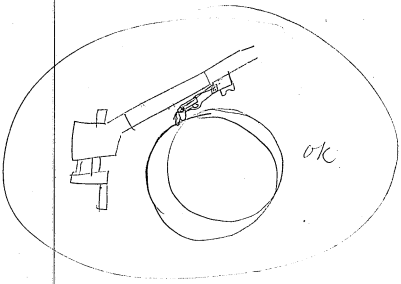
Nov 26 1888
Through Tag



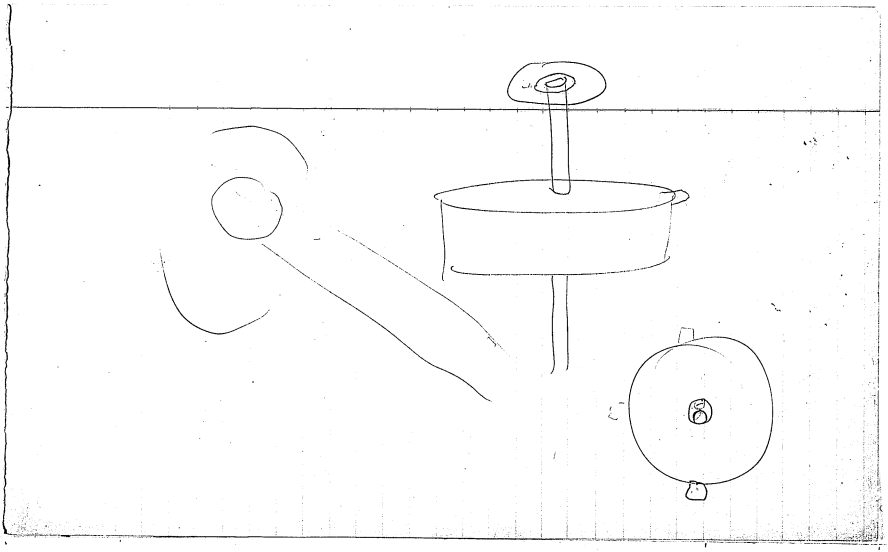


OK




Phono Nov 16 88
TAE



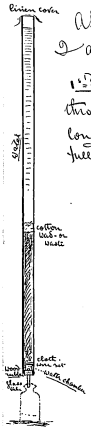
Dixon Dr. Wister,

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J. Nov. 27 1888
- 10. pm. -

Report of progress
made in Displacement Exp.




After several mishaps such as twisting tubes I arrived at the following :-

1st Exp. That an ore previously moistened (or water passed thro once) when filled to top with water, takes 2½ times longer to go thro than when fresh Dry ore is used - full data if wanted -

2nd Exp. - 3 lb. acidulated water (1% nitric) I allowed to soak down to ore level, then put waste wad on top - washed down the sides of tube to free same from acid which I sucked out again then filled up the tube to the top keeping same full all day & nights - changing & repeating -

Every few hours I tested the drippings for acidity & on reaching the last drops or few oz of the commenced with 3 lb the

Acidity rapidly decreased - and on getting up to 3 lb. 6 oz (6 oz over) there seemed to be barely a trace when tested with Bruceine -

Each Sol. is kept at the end of every lb. of liquid for analysis, if so desired -

It will barely be possible to eradicate "traces" of acid, even when twice its volume has passed thro -

The Exp. of course is continued to verify the above - tho this appears quite satisfactory it might be well to analyse the results or dripping taken at each lb.

These Exp. seem O.K.

Having waited unnecessarily long for the silver plates I thought it the best plan to go over this first thing Wed. morning to My. & see what I could get all ready for the Daguereotype Exp. hoping this may meet with your approval

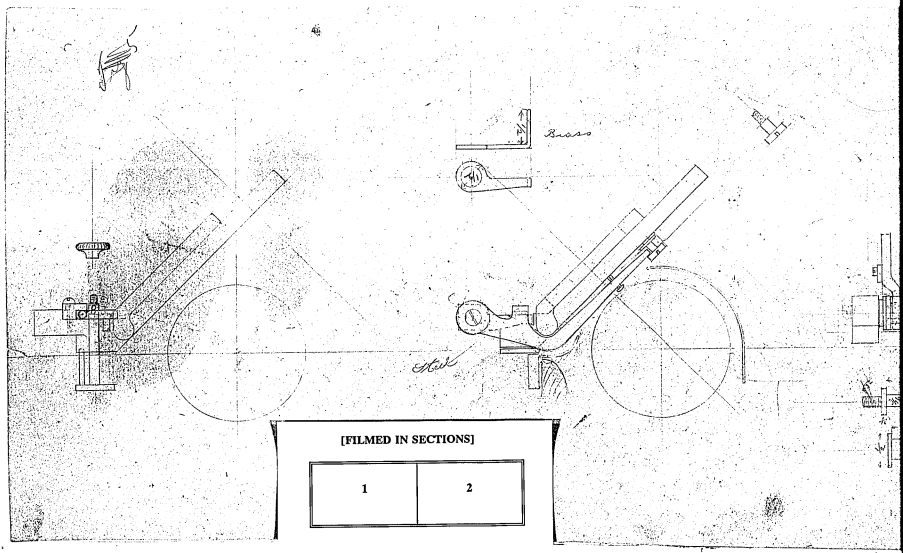
I remain Sincerely Yours

W. J. Wilkinson

Mr Brown is preparing other tubes & crushing on.

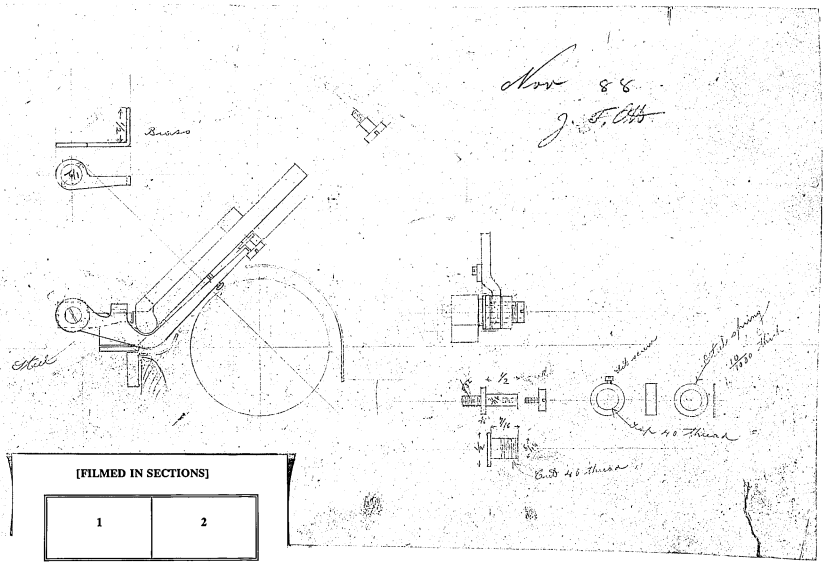
Ratchet
Cam

.40" Fan thick steel
3/32 thick
Wire cable
Fan cable steel
steel
1/4
1/4



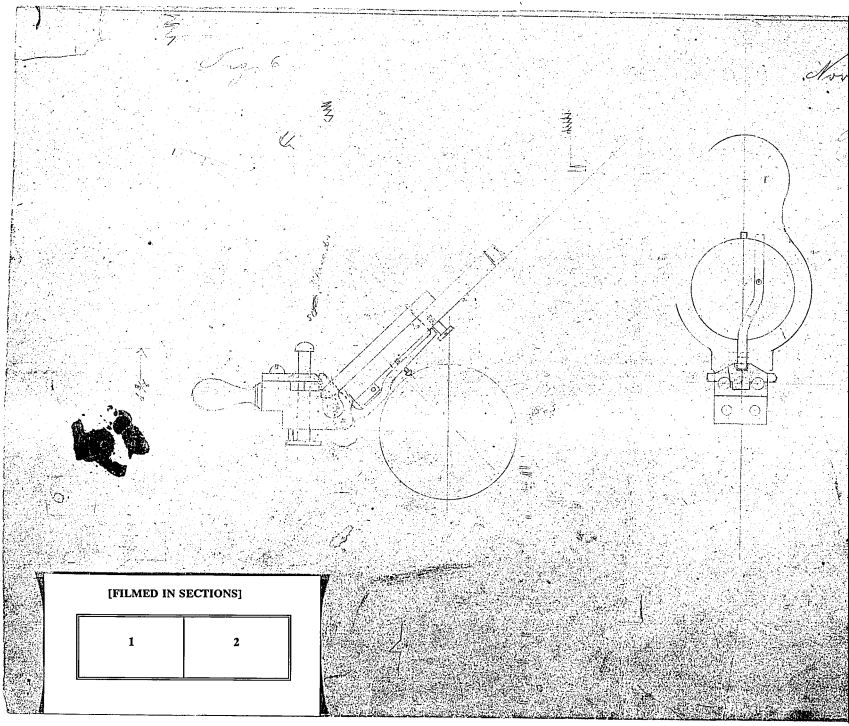
[FILMED IN SECTIONS]

| 1 | 2 |
|---|---|



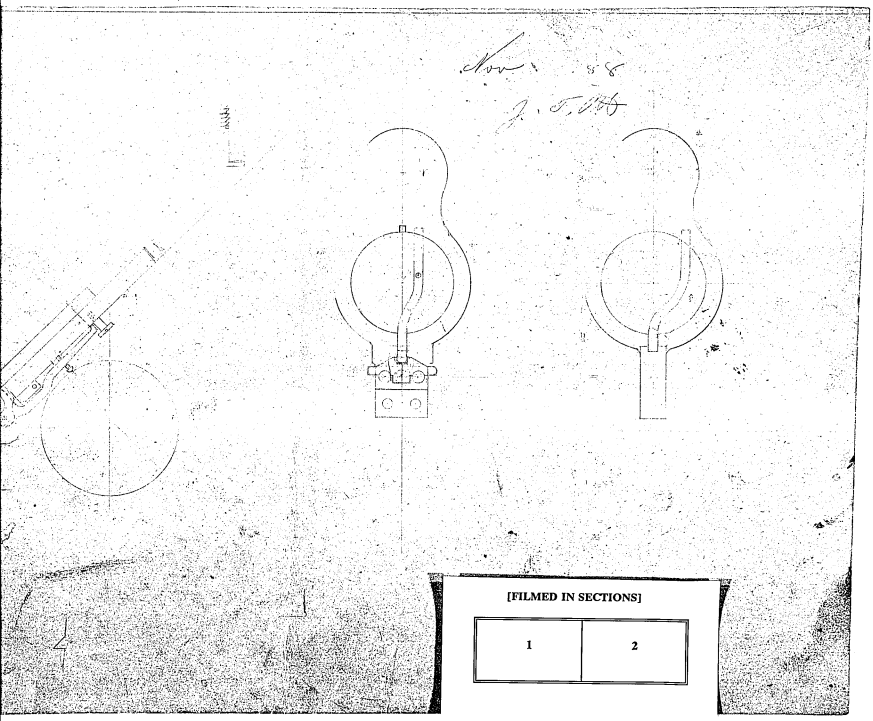

[FILMED IN SECTIONS]

| 1 | 2 |
|---|---|



[FILMED IN SECTIONS]

| 1 | 2 |
|---|---|



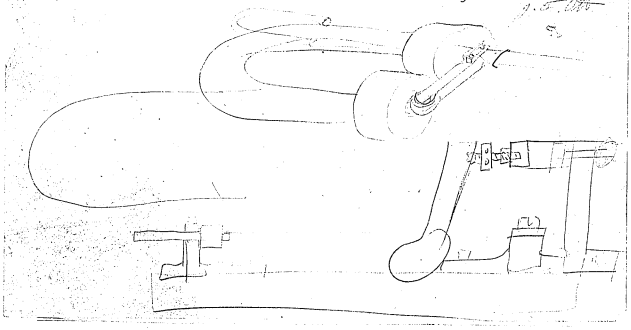
[FILMED IN SECTIONS]

| 1 | 2 |
|---|---|

Sketches

Rough drawings Dec 5.88

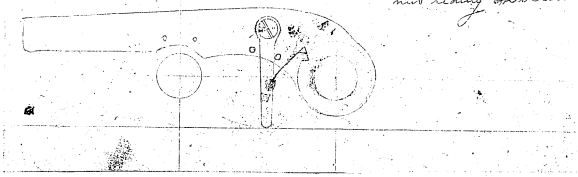
J. F. Otto



Dec 10. 88

J. F. Otto

Motion Diagram of mill riding apparatus



Dec 18/88

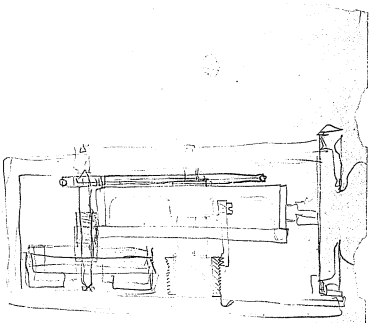
Hydrocl. acid (hot) treat then wash clean — & try mercury, observe results —

| | |
|---|---|
| Sulphuric — warm 2%. observe mer. | save Sol for analysis |
| Sulph. Calc. 2%. observe mer. | save Sol. for analysis |

Nitric mer. & mer — to anal.

Zn plate

~~Treat~~ on ~~with~~ 2% Sulph. acid — then wash clean — then use 2% Nitric as usual for dis placement



Dec 18/88

Dec 85

J. T. M.

# UNBOUND NOTES AND DRAWINGS
# 1889

Phot. notes: [illegible]

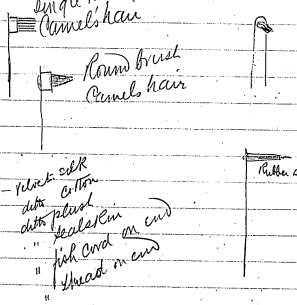
No. 90.

1. All automatic adjustments
2. Prop arm for lifting travelling arm.
3. Enclosing cover for cylinder
4. Circular recording point & ball reproducer
5. New details of governor
6. [illegible] different forms of turning off valve.
7. Valve for chips
8. Roughturning surface of blank
9. Thread lined blank.
10. Blanks with cores of asphalt & hard rubber.
11. Forms of false [illegible] for cylinder

Papers forwarded
Yonkers Oct. 17/89

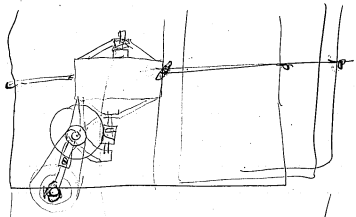
[illegible]

Make receiver point May 26 1889



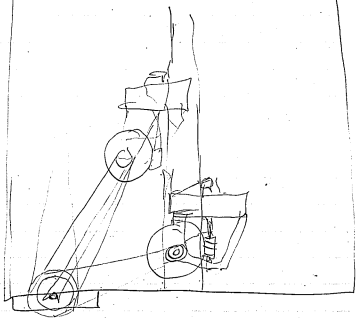
Sketches and Notes

1889-06-15

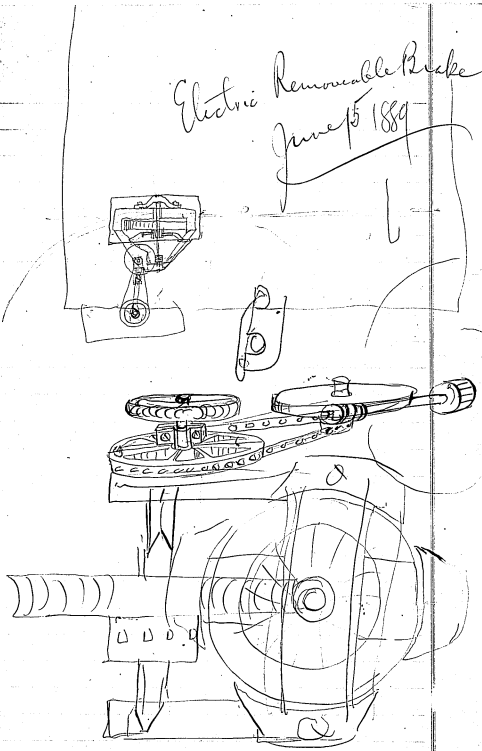


Electrical Removeable Brake
June 15 1889

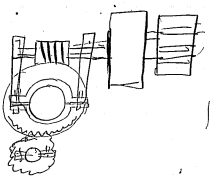
$3\frac{1}{2} - \frac{1}{2}$

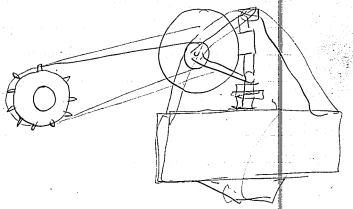


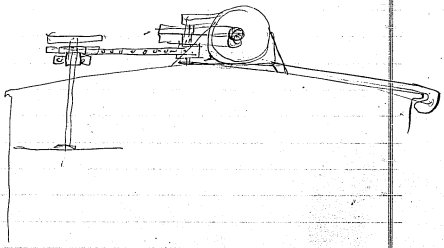
Electric Removeable Brake
June 15 1889



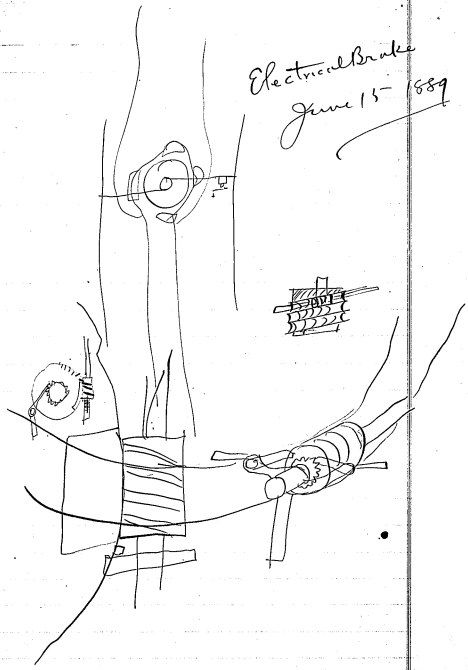
Elevator Removable Brake
June 15 1859



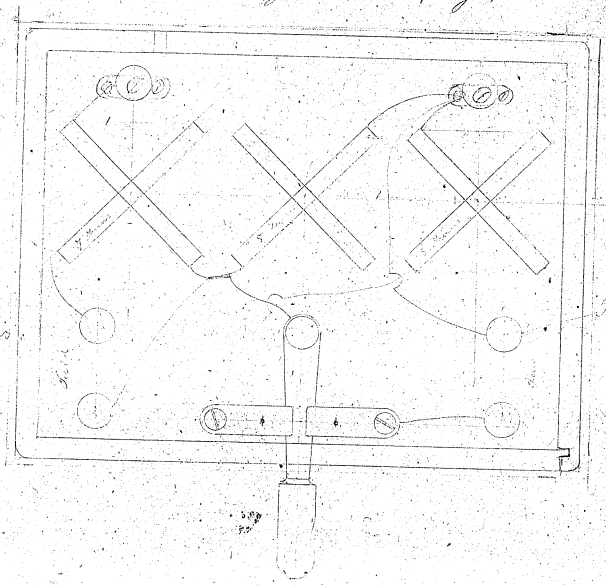




Electrical Brake
June 15 - 1889



Edison Laboratory Phonograph Ser
June 26 1889 J. E. Ott

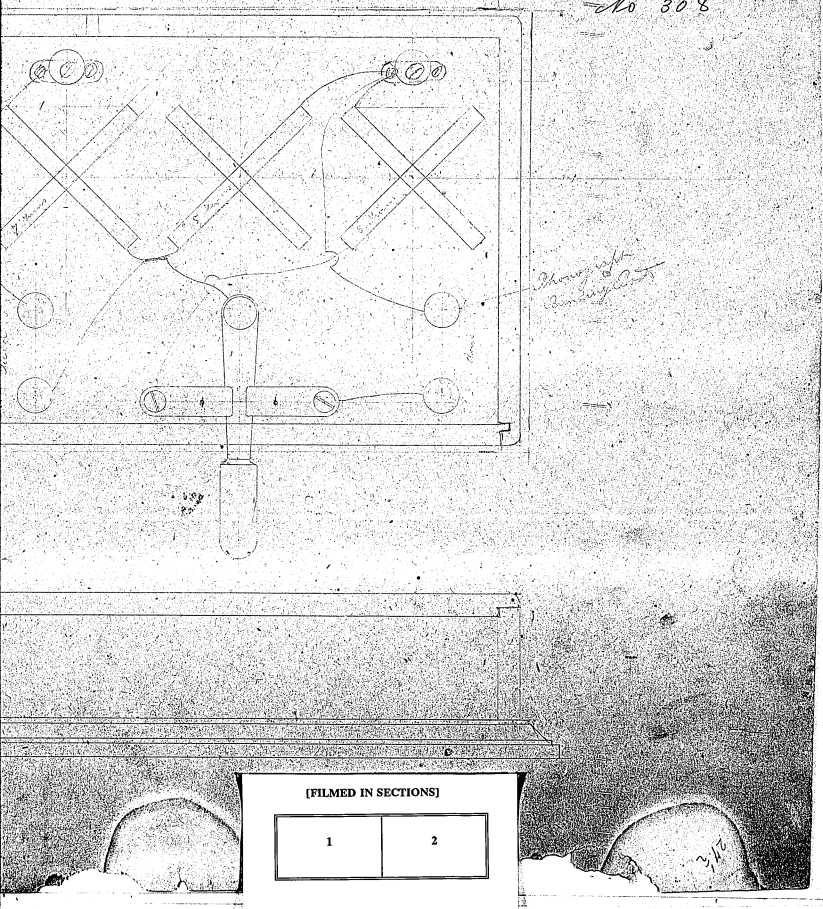


[FILMED IN SECTIONS]

| 1 | 2 |
|---|---|

Edison Laboratory Phonograph Series Switch
June 26 1889 J.S.Ott

No 308




[FILMED IN SECTIONS]

| 1 | 2 |
|---|---|

Report for 2nd

Report of Work.

From July 2nd to 12th. 1899

July 2nd & 3rd worked on corresponding cylinder.
Tried different compounds & wax for first dip
Of which none were better than paraffine whose melting point had been raised by stearate of soda so that it could be dipped in very hot regular wax making a thin coating of wax on outside.
A mixture of regular wax 100, ceresin 30 dipped at 350° made a thin shell cylinder which stands knocking around in the box better than the above and better than the thread lined with gum balata. These will cost about 8¢ per dozen to manufacture.
July 7 & 8th made 150 thread lined cylinders with gum balata for South America
Only 60 percent good ones can be got by this process, and they are expensive to make.

July 9-10. Made some B.P. special wax for musical records for Dr. Schultz Burge, and made 30 cylinders from the same

July 11. Tested the copper jacketted kettle and found that with 90 lb pressure in boiler we can get a temperature of 315° in wax
The kettle must be ~~lined with~~ tinned or silvered as the wax unites with oxide of copper on the sides of the kettle and at 320 ~~and~~ it reduces black oxide of copper on sides of kettle.

ACCOUNTS PAYABLE
Week Ending
$

Report of Thread lined cylinder.

| | | |
|---|---|---|
| July 7th | molded | 526 |
| July 8th | " | 400 |
| " 9th | " | 502 |
| " 10th | " | 600 |
| " 11th | " | 542 |

July 3rd we shut down so as to have our dipping shells ground a little smaller as the cylinders were fitting too far up on mandrel.

July 10th is the only good days work we have had, all the other days something was wrong either we had to use one of the boys on some other work or we could not get wax from flour works or were bothered by workmen fitting steam pipes in cooling box.

July 10th we lost 3 hrs. in morning in melting up wax.

July 9th we got 502 and did not commence to dip untill noon.

At Silverlake, we have 5000 lb of wax ahead of demand.

After we have worked up all the old wax at Silver Lake in the still we can recover all future waste by the new process without still at 1cent per lb.

ACCOUNTS PAYABLE

Week Ending _____ 188

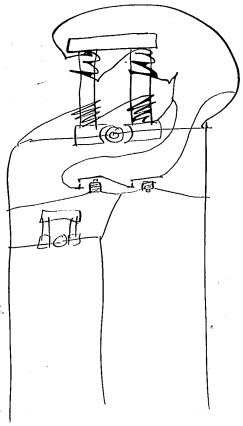
$

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J. Aug. 1. 89

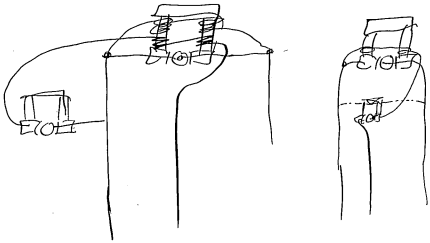
Nov 12 89
J. E. G. H.



Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

Subject _____ Orange, N.J. _____

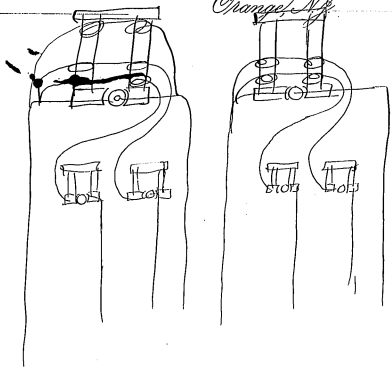


Cable Address "Edison, New York."

From the Laboratory of

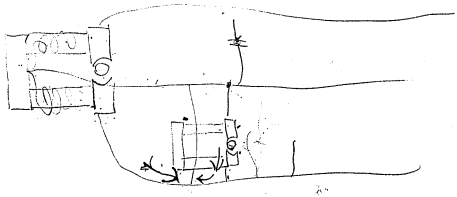
Thomas A. Edison

Subject _____ Orange, N.J. _____



From the Laboratory
of
Thomas A. Edison
Orange, N.J.

Subject

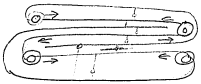


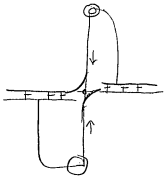
Cable Address "Edison, New York."

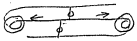
From the Laboratory of

Thomas A. Edison.

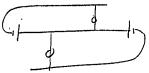
Subject _____ Orange, N.J. _____







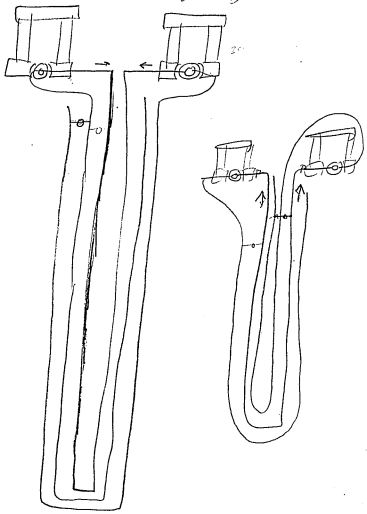




Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison

Subject, _____ Orange, N.J. _____

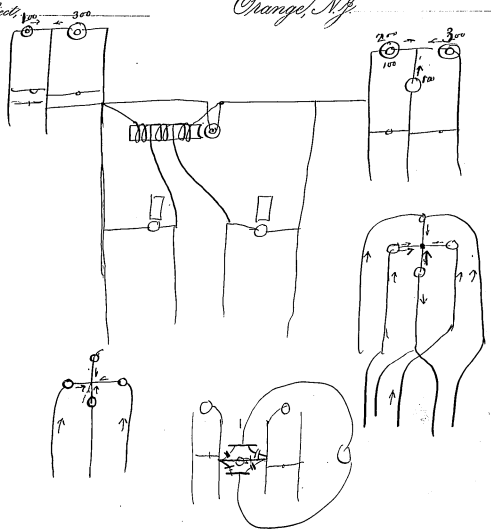


Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

Orange, N.J.

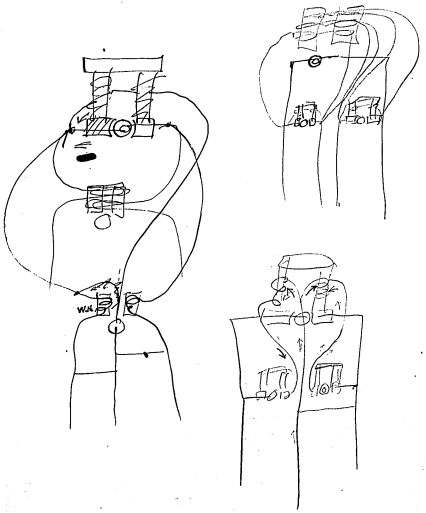
Subject:



Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

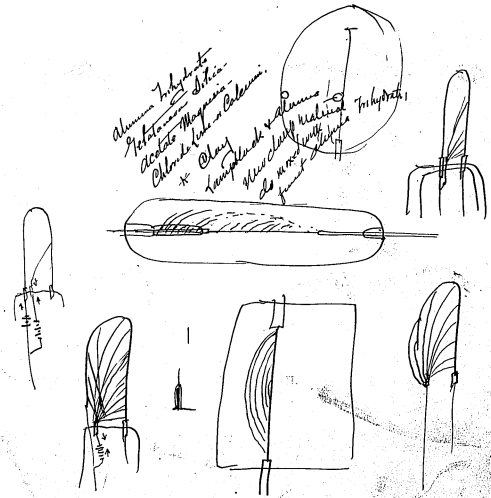
Subject _____ Orange, N.J. _____



Cable Address "Edison, New York."

# From the Laboratory of Thomas A. Edison.

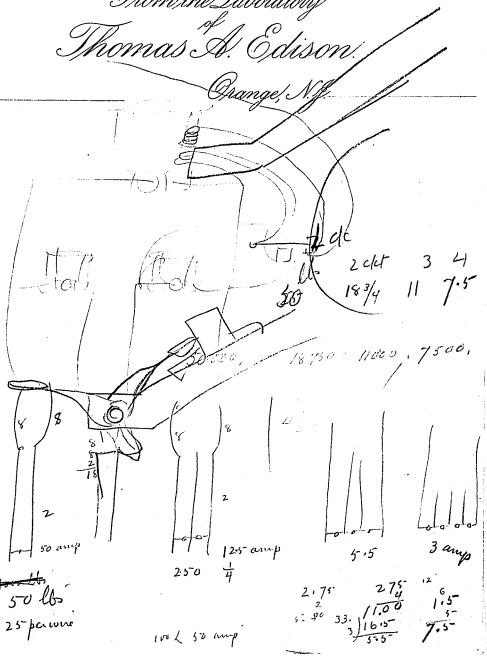
Subject, _____ Orange, N.J. _____



Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison

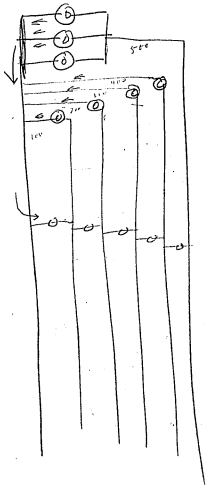
Subject, Orange, N.J.



Cable Address "Edison, New York."

From the Laboratory of Thomas A. Edison.

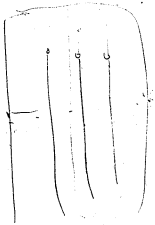
Subject, _____ Orange, N.J. _____



5 00
5 00
27 5 00
27 5 00
302 5 00

½ for 1
for 2
2 for 3
3 for 4
4 for 5

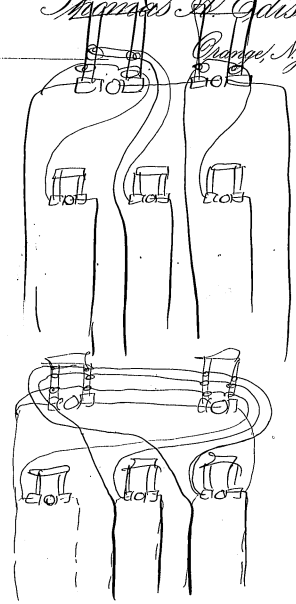
100 –
25 –
36
61 –

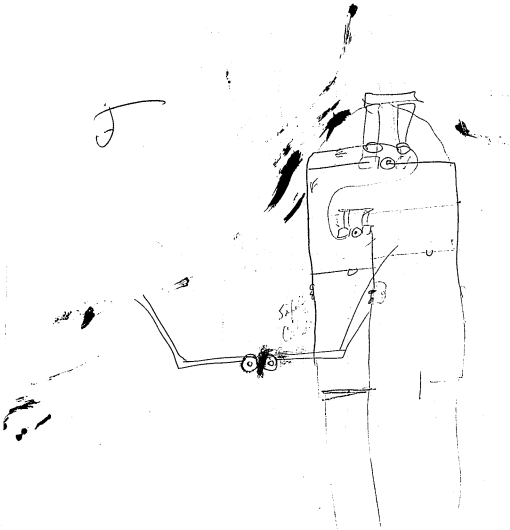


Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

Telephone, Orange, N.J.



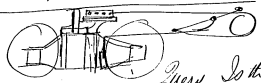


CHAS. BATCHELOR,
33 WEST 25TH STREET,
NEW YORK.

Notes for Car Brake Aug 27/1889

1. The hand wheel can be taken off and an sprocket wheel put on instead and after the motor has done its work the hand wheel can be replaced.
Perhaps the hand wheel is too high

2 If the motor can be placed between the wheels on the trucks then this will do



motor draws a brake lever round a drum with chain

Query Is there room for motor

3

Sketches

THOMAS' A. EDISON,
No. 65 FIFTH AVENUE.

Form L. 1000-0-10-'86.

Labor .78
Material 6.05
Royalty 1.20
Gen Exp. .41
8.03

Oct 11th 1889

New York, ..... 188

~~Battery without Lamp Office & Hole~~

| | | | |
|---|---|---|---|
| G. | 28.85 | Building & digging & Well | 4000.00 |
| Dave | 10.50 | | |
| Watchman | 6.00 | Machinery | 2627 |
| Eng. — | 13.50 | | |
| Coal — | 6.00 | Tank ~~Total Dates~~ | 90 |
| 800' 5/10 Def | 7.50 | ~~Stam Lamp~~ | 1449.61 |
| 10/1 Int | 15.00 | ~~Eng pump, Boiler~~ | 8800 |
| | 97.35 | ~~Supplies~~ | |
| | 100.00 | | |

52/400/.0785
364
360

240/100.00/.41
960

Form L. 1900-5-18-'00.

THOMAS' A. EDISON,
No. 65 FIFTH AVENUE.

New York, ..... 188

L. .78
Mat. 6.05
6.83
L. .34
7.17
.41
7.58
25% 1.51
9.09
Royalty 1.20
10.29

12 1/2
1 1/2
15.

.0064
.08
1.75
.04
.08
8 / 2.014
2.0

55
137

1.453
145
72
.217
1.453
1.67

1.062
106
53
1.227

76
15
61
.076
.076
.152

.444
.576

1.078
.187
.891
2.1068

44
44
.506

Notes

| | Labor | Max | |
|---|---|---|---|
| Bat box. | ·20 | ·592 | |
| Lead. | ·13 | ·627 | |
| Compositor pass 1/2 p. etc | ·06 / ·39 | 1.453 / 2.67 = | 3.06 |

1

| | | | |
|---|---|---|---|
| Oxide plates | ·248 | 1.062 = | 1.310 |
| Zincs | ·144 | 1.878 = | 2.022 |
| Soda, | | ·44 = | ·444 |
| Genl Expense at 40 p. day | | | ·41 |
| Depreciat. on £6000 at 5% per Annum on 40 p. day. | | | ·80 |
| | | | 8.05 |
| Royalty on 12 litres at 10 p. per litre | | | 1.20 |
| | | | 9.25 |
| Profit on 8.05 at 25% | | | 2.01 |
| | | | 11.26 |

2

~~Bat Box~~

Labor + material are in proportion of ·78 & £6.05 or total 6.83

| | |
|---|---|
| Gens. Exp. | ·40 |
| Depreciat. | ·80 |
| Royalty | 1.20 |
| Profit | 2.01 / 4.42 = 4.42 / 11.25 |

To add £4.42 to £6.83 by percentage where the material is so much greater than labor cannot be done so that the extras such as Zincs, pass, Soda etc etc will not look exorbitant so

Try. 40% on labor
& 15% on material

3

| Item | Lab. | Mat. | Total |
|---|---|---|---|
| Battery | .80 | .680 | 1.48 |
| Lead | .52 | .72 | 1.24 |
| Complete | .24 | 1.67 | 1.91 |
| | | | 4.63 |
| Oxide | .99 | 1.22 | 2.21 |
| Lines | .57 | 2.16 | 2.73 |
| Soda | | | .50 |
| | | | 10.08 |

This is too small
Next basis
Figure box complete
without line, oxide or soda
at Labor 40% & Material 15%

4

| | | |
|---|---|---|
| Box complete with Lo. | | |
| 4 covers 1.20 | 4.4 | |
| 4 jars 13¾ | 55 | 4.00 |
| Oxide plate 8 @ 30¢ | | 2.40 |
| Lines 25 ft at 12¢ | | 3.00 |
| Soda 8 lb at 6½¢ | 80 | .52 |
| | | 11.42 |

Increase 11.42 by
35½% & it makes
a price of $15.50 that
we originally had

5

then our price list would be

Bric Complete with
4 Jars ~~[illegible]~~ @ 75¢ 19¢
4 Covers 65 16¢
All test. 606 = 7.46

Oxidyplate 8 at 41¢ 3.28
8 Lines 51¢ each, 3 lb 24 oz 4.05
8 lb Soda at 9¢ .72

15.51

15 51
3 10
12.41
1 14
11.19

20

Phono

(1559-11)

Cable Address "Edison, New York"

From the Laboratory of Thomas A. Edison.

Subject. _____ Orange, N.J.

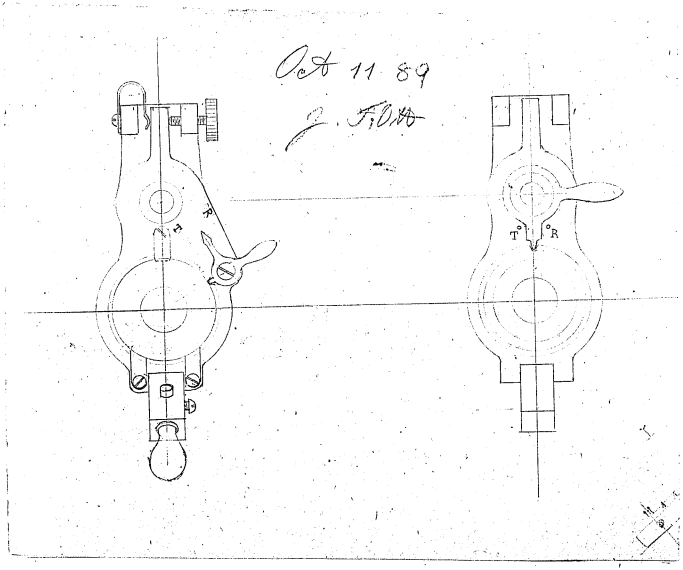
Test of Phonograph battery.

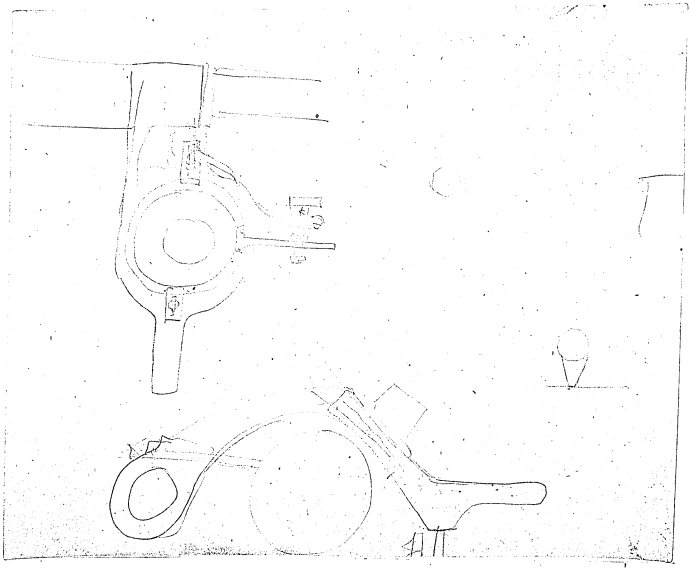
Sept. 22. 89:

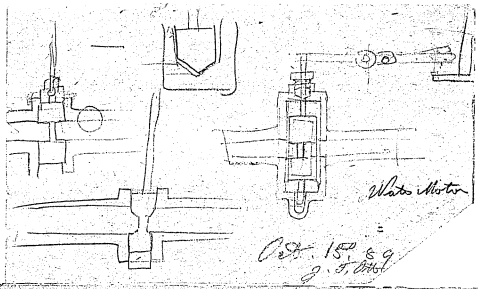
4 Cells were filled with solution of Lewis Lye of sp. gr. 1.20 (25%) The Zincplates were of ordinary size (8¾"×2½"×½") cast without Hg, but amalgamated before test. A rubberband ½" broad was stretched around top of Zincs to prevent creeping of the salts formed.

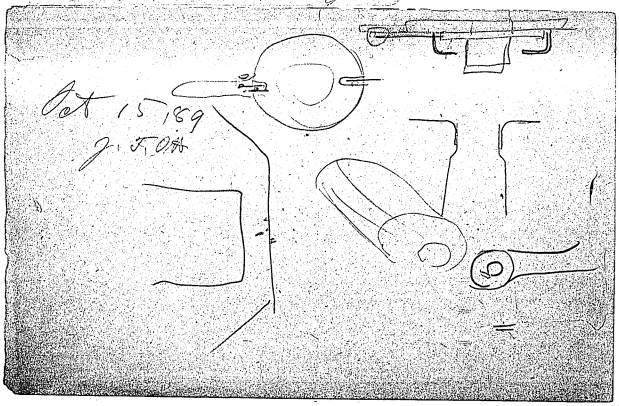
The battery was working for 2 hs daily through 0.8 Ω of platinoid wire, thus giving an average Current of 2.75 a. Before starting test, the battery was short circuited by a short piece of wire for ½ h; the test commenced at the 24th Sept, the battery working for 2 hs daily at 2.75 a until Nov. 6th, when the Current was observed to decrease gradually; Nov. 9th the current fell to 1.8 a and the battery was no longer able to run machine.

The E.M.F. and P.D. of battery had been measured every day during test by Potentiometer


Oct 11 89
T
R
T
R

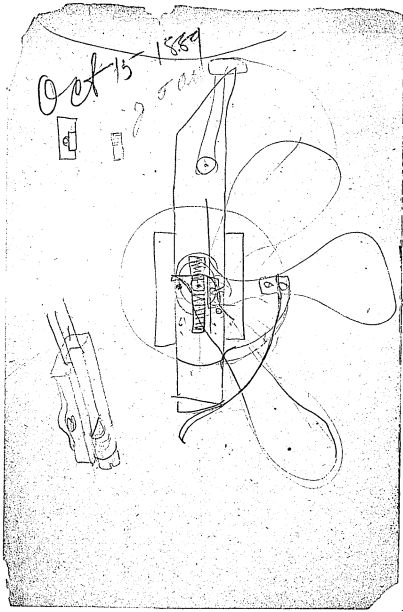


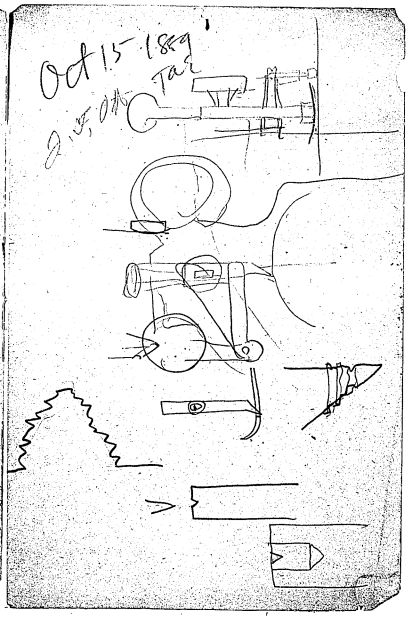

Walter Morton
Oct. 15, 1869
J. T. Otis


Oct 15, 1869
J. T. Otis

Oct 15 1889 TAS
J. S. Otis


Oct 15 1889
TAS
J. S. Otis

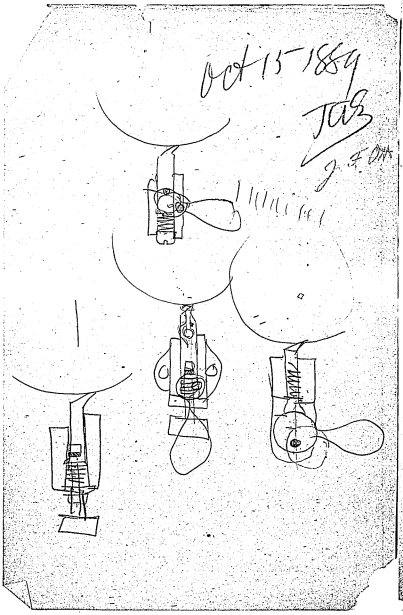

Oct 15 1889
2,550

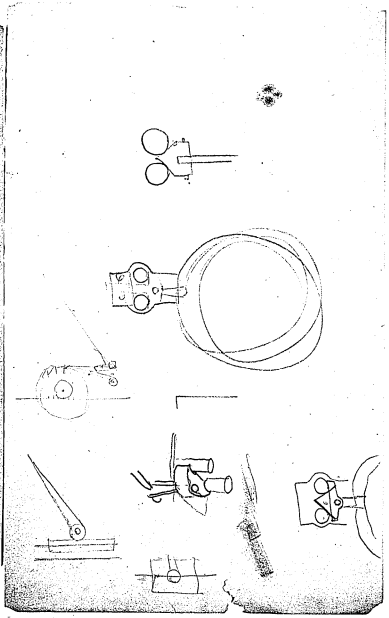

Oct 15 1889
2,550
Tail

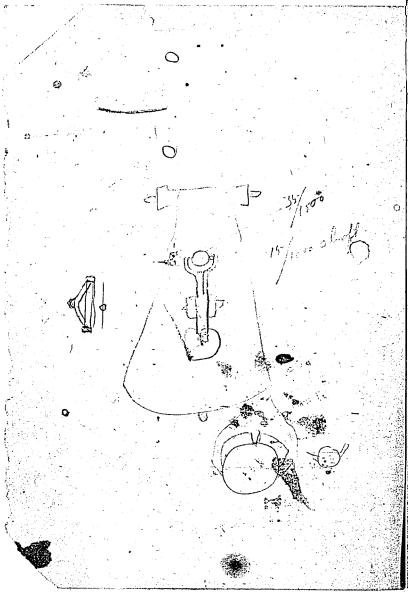
Oct 15 1889

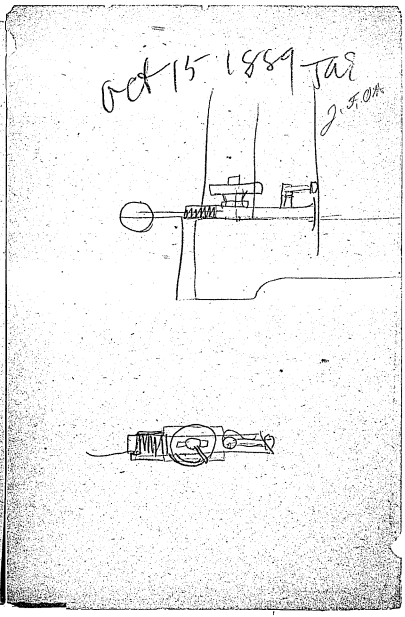
JCB

J. & OM





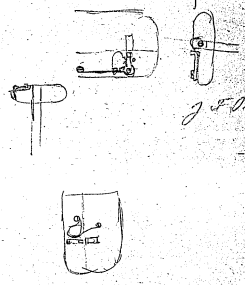



Oct 15 1889 Jar
J. F. Oh

BAN-I
1000-

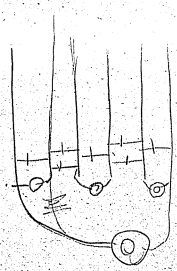
Oct 15 1889

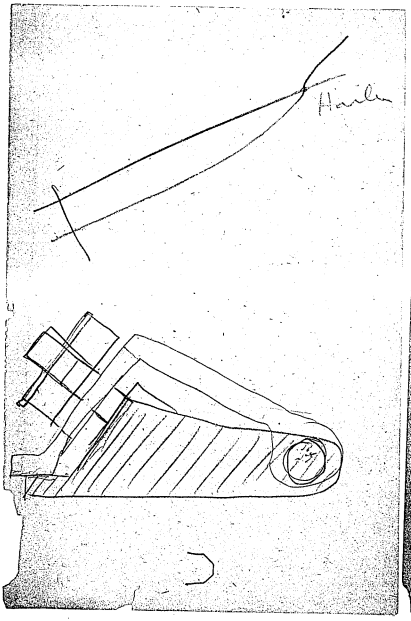
Tag



Oct 15 1889

Tag





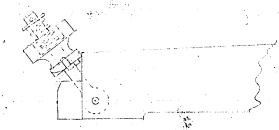

~~2 lbs~~

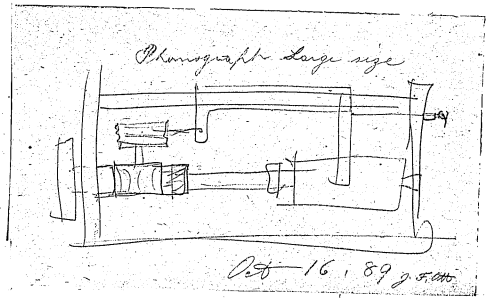
120 — 1

Equal parts

| Mag | non — |
|---|---|
| 15 | 8 |
| 2 | 6 |
| 1120 lbs | 1120 lbs |
| 820 | 300 lbs — |
| 3 pot 1x4 | 33 |
| 9 cu | 10@15 — |

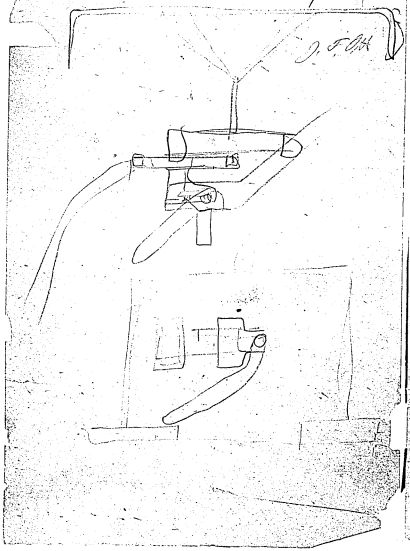
Oct 15 89
J. T. Catt

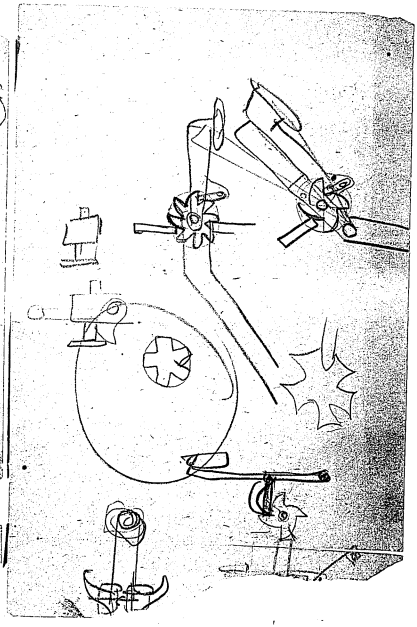




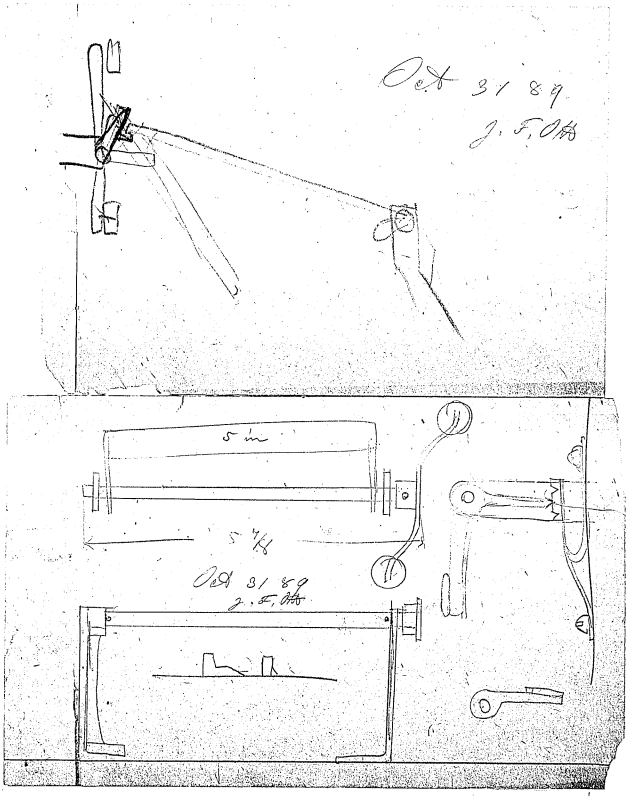

11 12

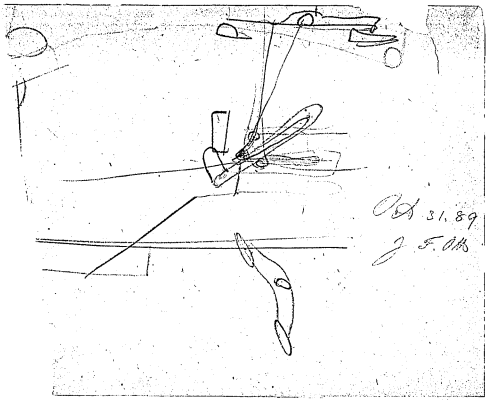
Oct 31 89





Oct 31, 59

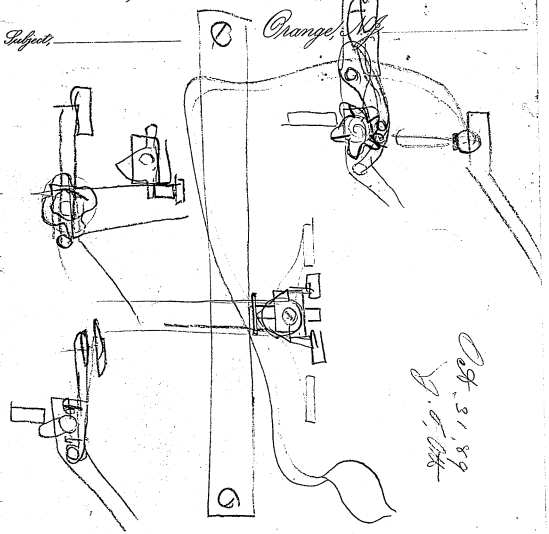

Oct 31 89
J. S. Oth
5 in
5 1/8
Oct 31 89
J. S. Oth


31.89
5.00

Cable Address "Lamp, New York"

From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J. _____



Oct. 5, 1878
Fig. 1

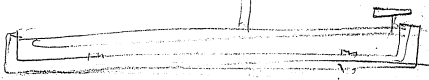
"Cable Address" Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Orange, N.J.

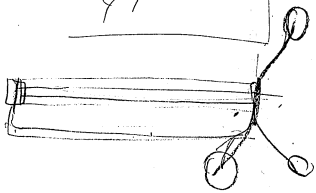
Subject,

12
60



10
18
13
41

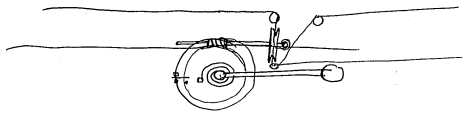
13
18
46
8
10
64

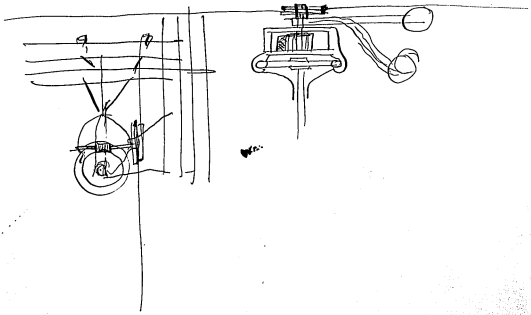


Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject: _____ Orange, N.J. _____

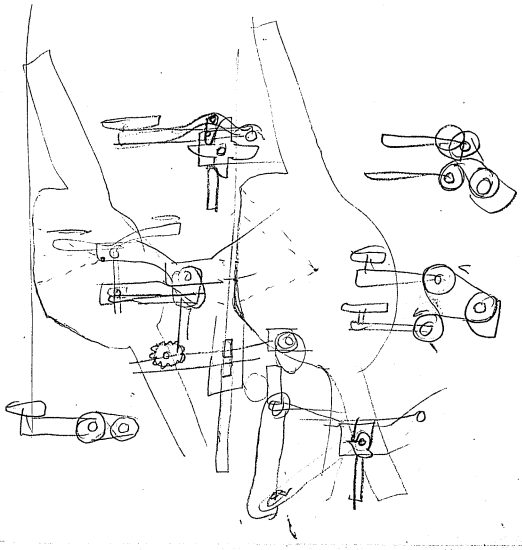


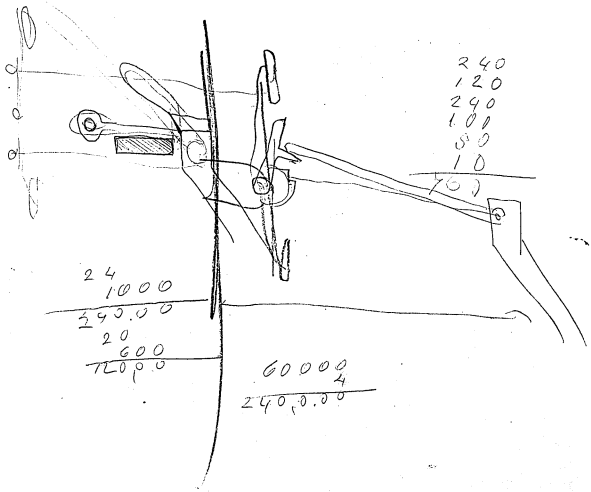


"Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject _____ Orange, N.J. _____

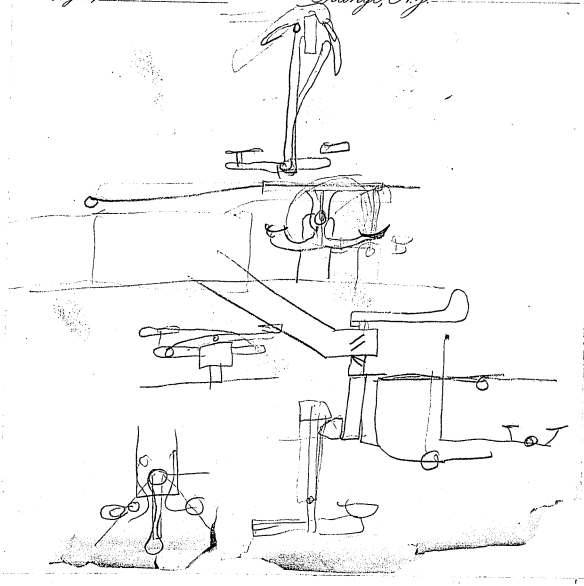



240
120
240
100
80
10
700
24
1000
24000.00
20
600
12000
60000
4
240000.00

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject _____ Orange, N.J. _____

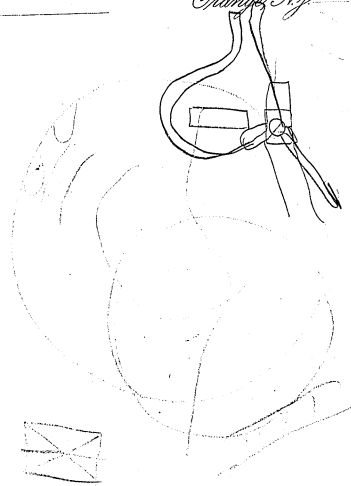


Cable address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Orange, N.J.

Subject,



Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

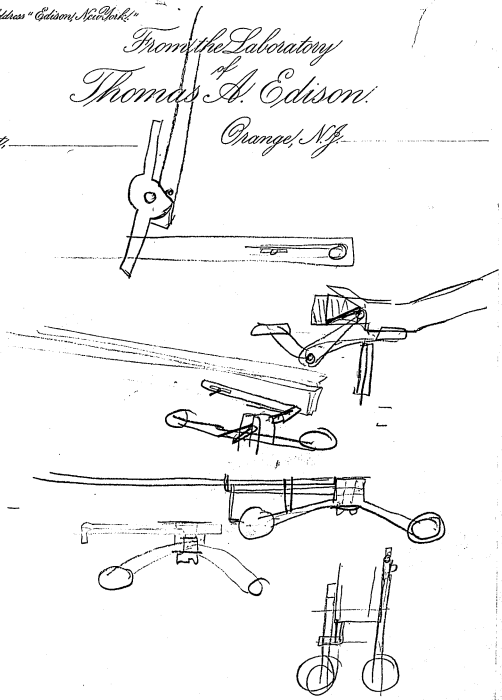
Subject _____ Orange, N.J. _____

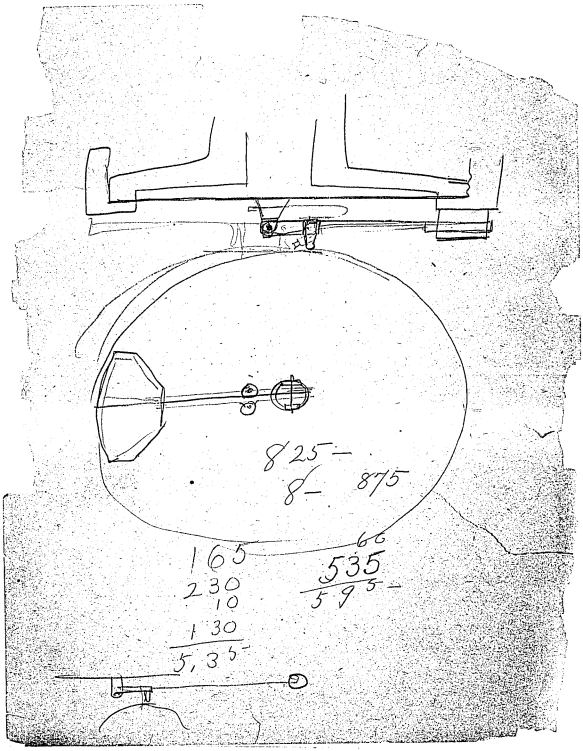
12
13
36
12
156
.038
1248
468
5.928

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J. _____

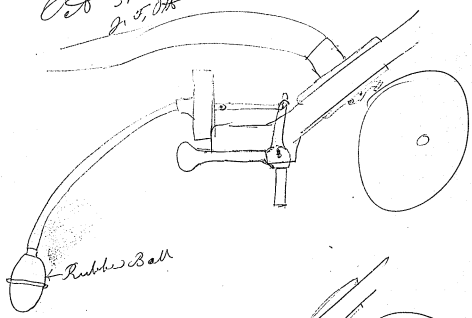


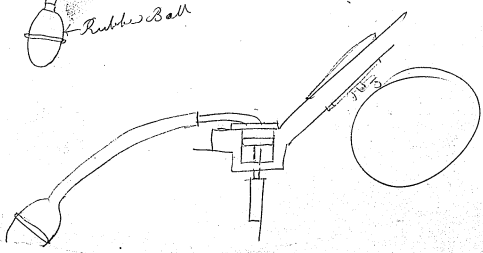

8 25 –
8 – 875
165
230
10
1 30
5,35 –
66
535
595 –

Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

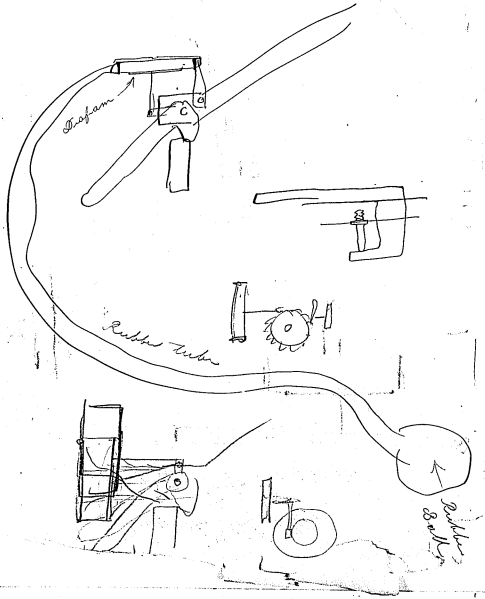
Subject Oct 31 89 Orange, N.J.



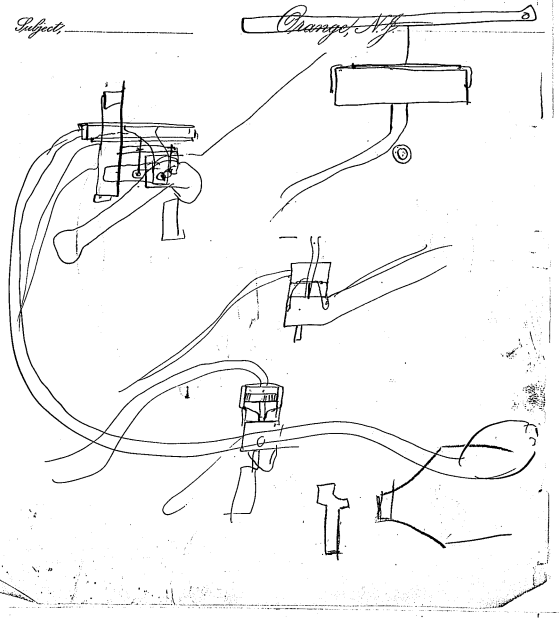
Oct 31 89

J. F. Otto

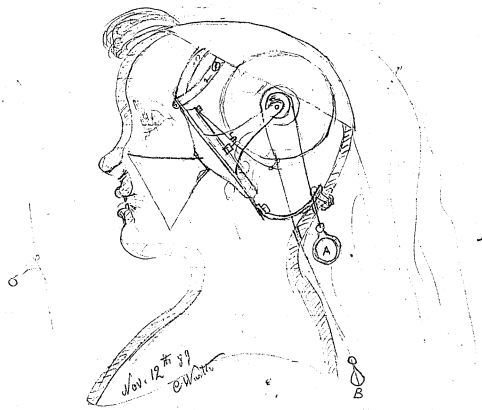


From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J. _____



Toy Phono




Cheap Toy Phonogr.
To be mounted in the head.
The head only to be sold. Talk only short sentences such as: I love you mamma. For talking, pull string A
For rewinding pull string B

# UNBOUND NOTES AND DRAWINGS
# 1890

March 31 1890

J. F. Pitt



March 31 1890

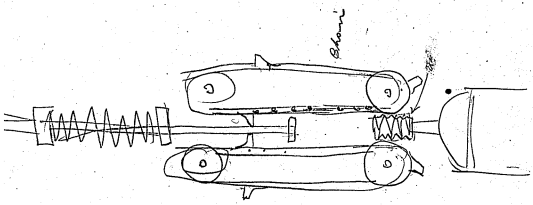
J. F. Pitt

March 31 1890
J F Otto
Magnet
Disk
Armature
Spring Box
Iron & Gum
228
2.76
20 m
Iron 9 ft - oil tempered
118 Gum - Iron mixt
16 inches on shaft


March
31, 90
J F Otto
P
20

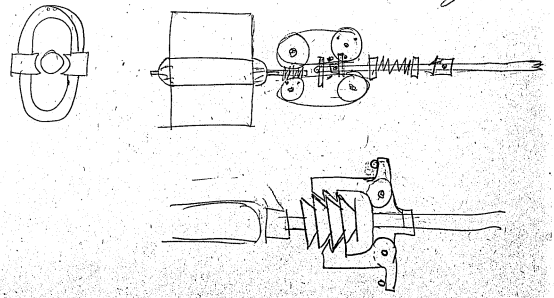
March 31 1890

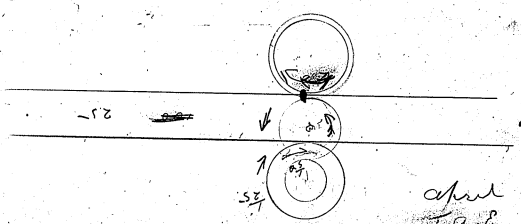
J. F. Ott



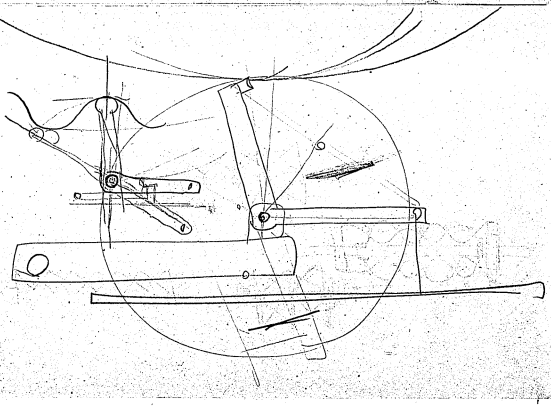

March 31, 1890

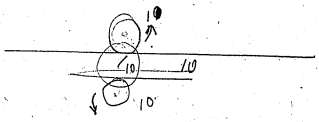
J. F. Ott

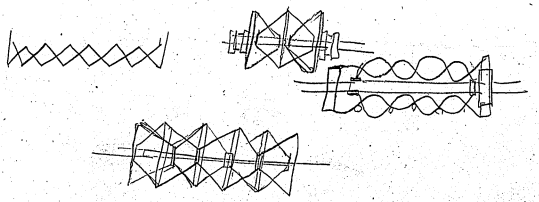


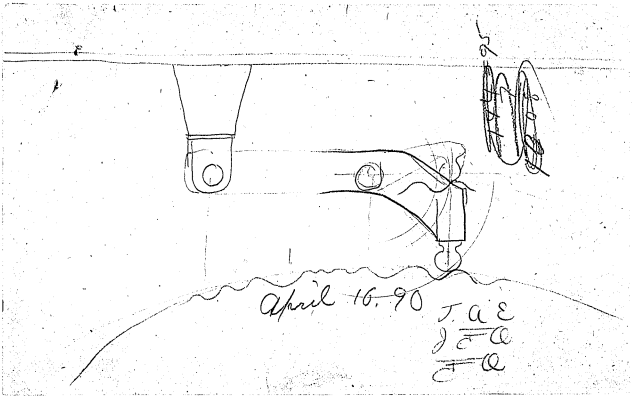


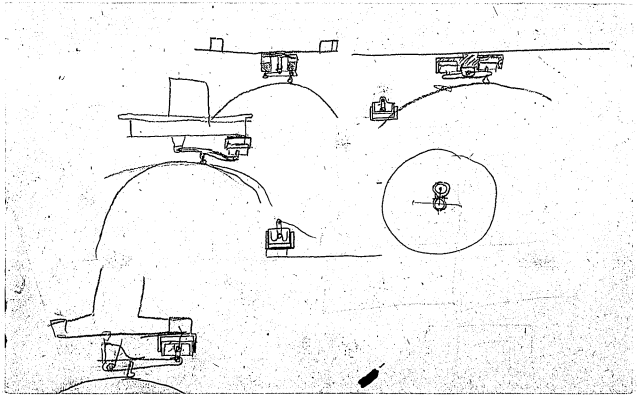

April 14 1880
J. A. E.
J. E. O.
J. C.

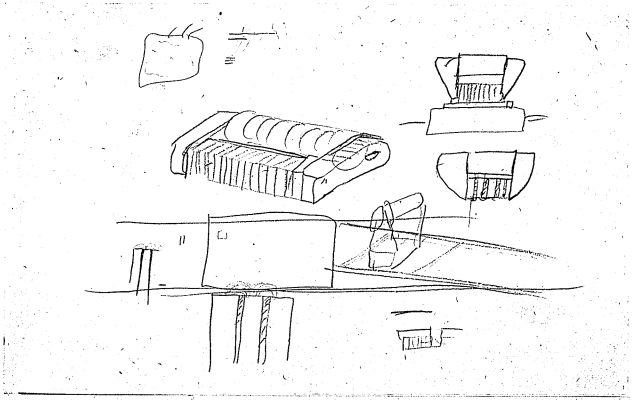


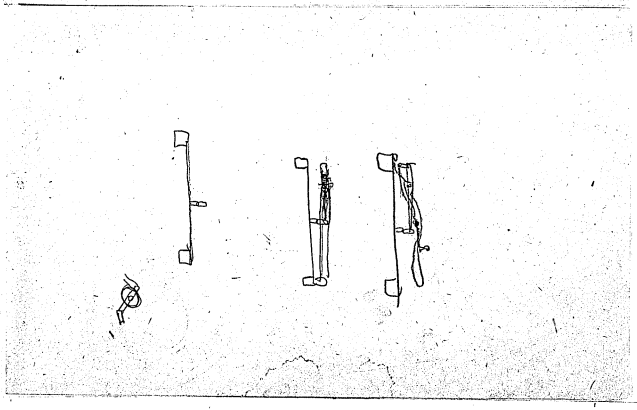

10
10
10
10

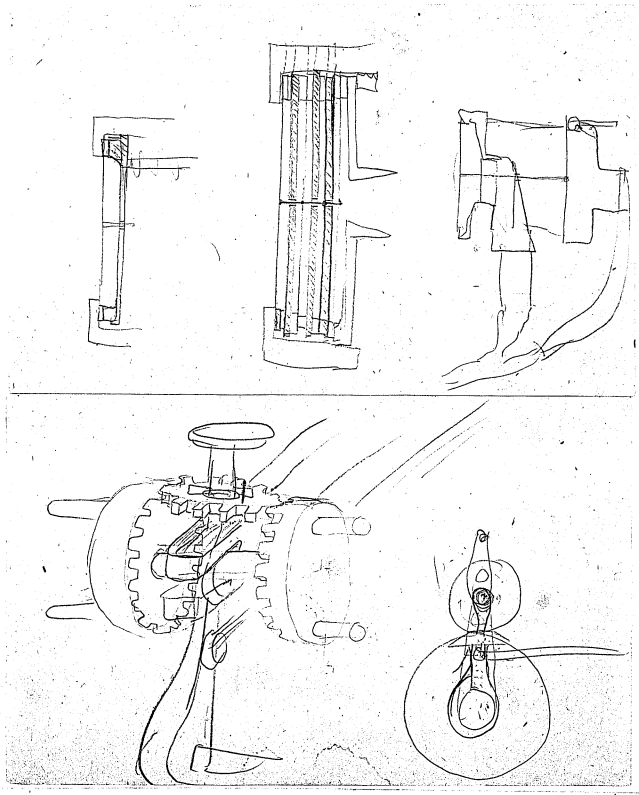


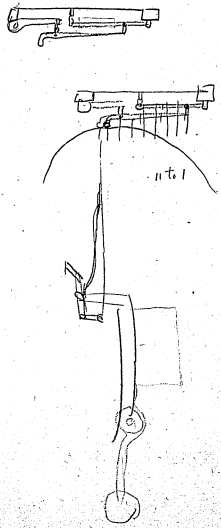

April 16, 90

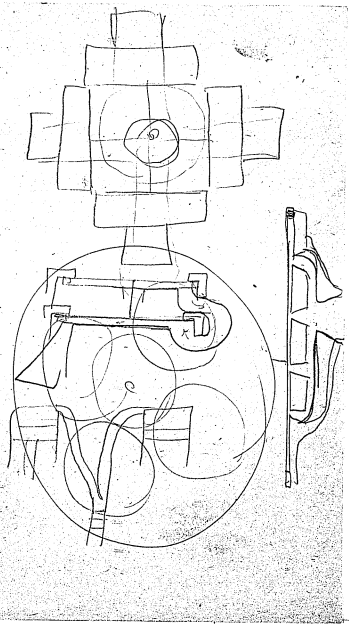


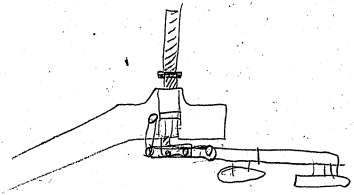


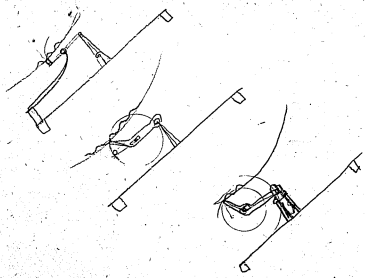


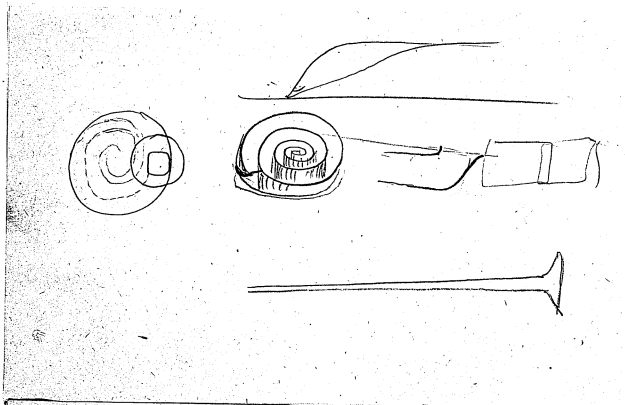


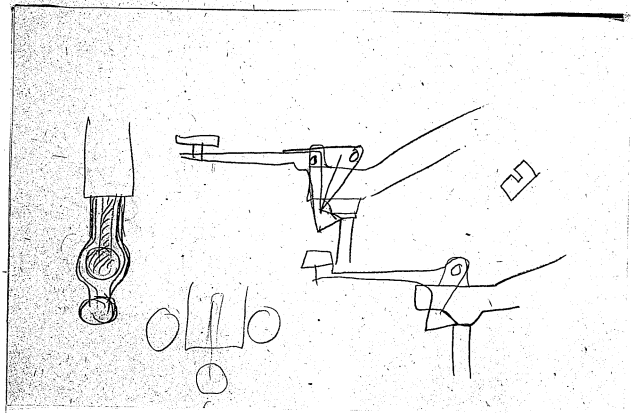

1 to 1





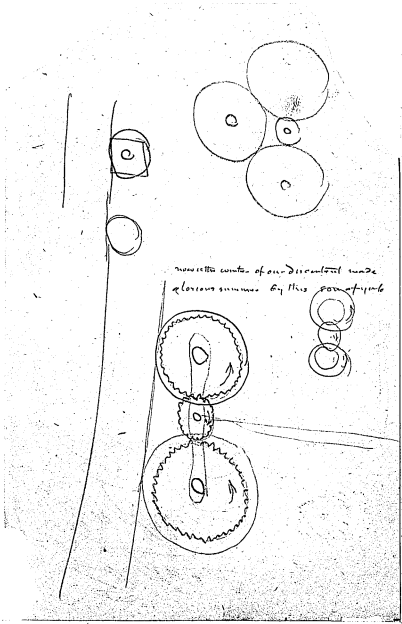


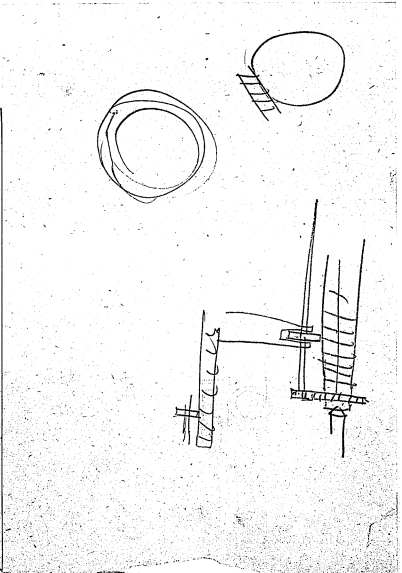




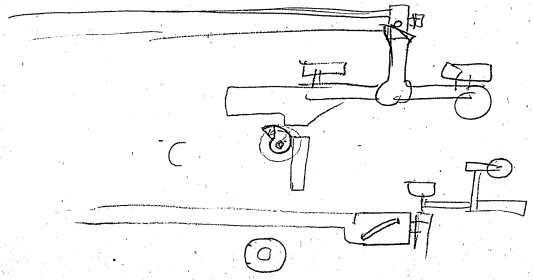
England
England
England
Ireland

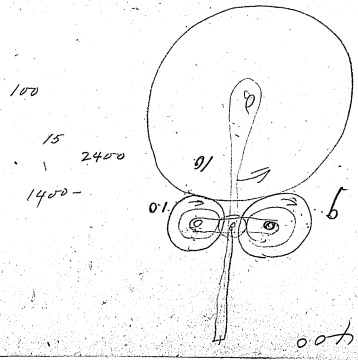

England
England
England
Now ~~the number of~~ words
Central Pacific Alaska Dominion
by the Order of Mr. [illegible]
now is the number of our discontent
400

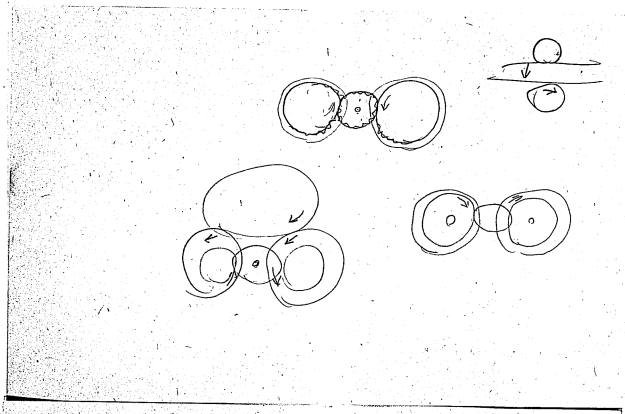

now let us write of our discontent made
glorious summer by this son of York

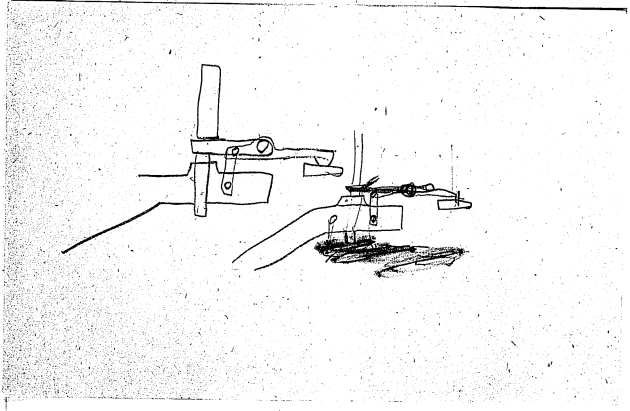


99
110

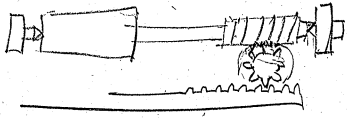


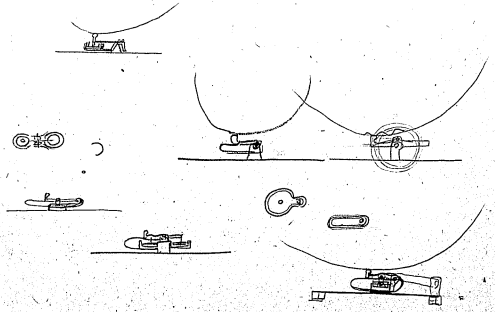

100
15
2400
1400-
01
01
b
0.07
0.561

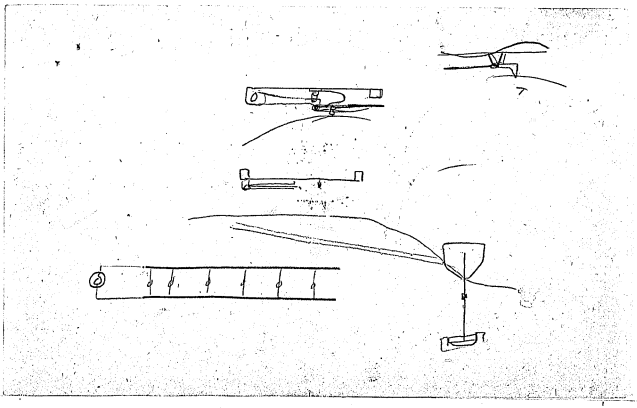




# LEE







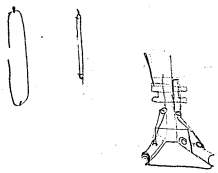
Pilot's Grill Pen

Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

Orange, N.J.

Subject



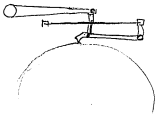
april 18. 1890

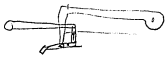
J. E.
J. E. O
E.

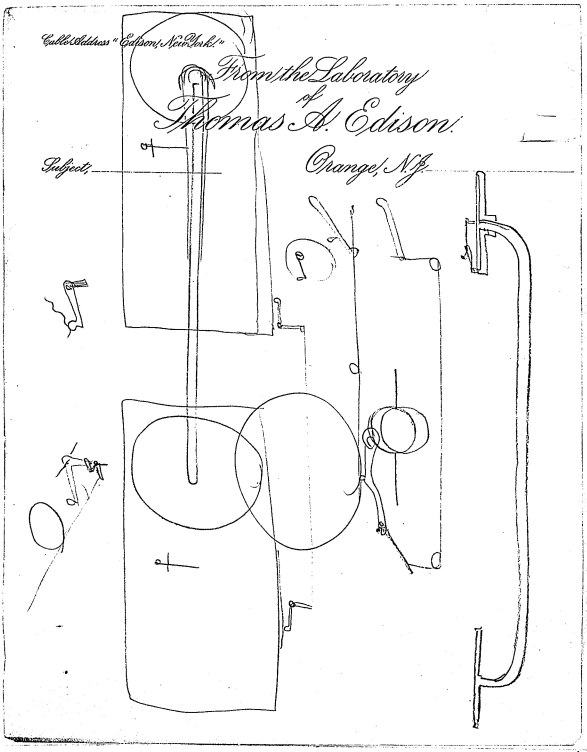
Cable Address "Edison, New York"

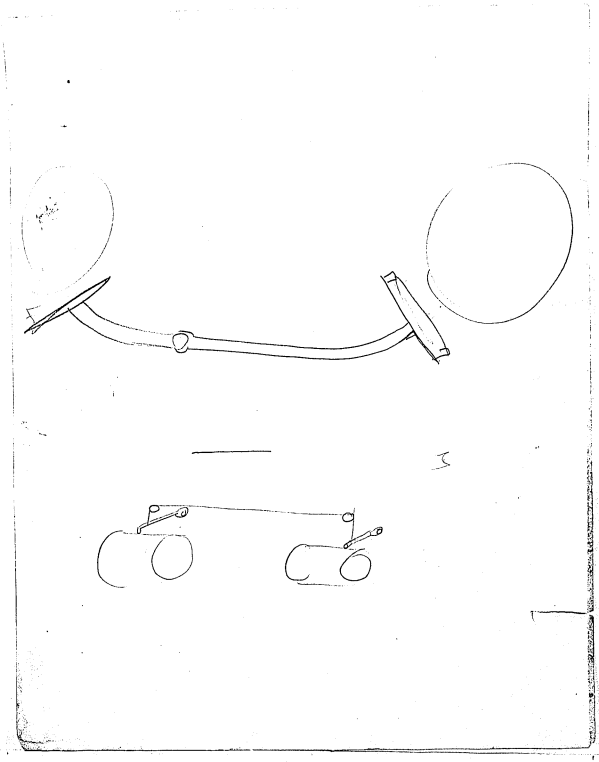
From the Laboratory
of
Thomas A. Edison.

Subject, _____ Orange, N.J.





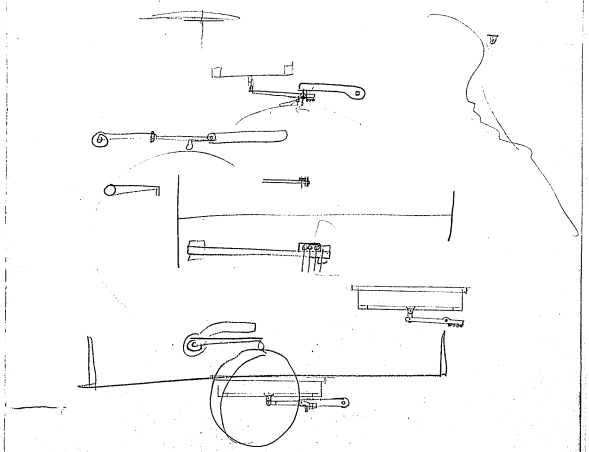

Cable Address "Edison, New York"
From the Laboratory
of
Thomas A. Edison.
Orange, N.J.
Selfcoll



Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

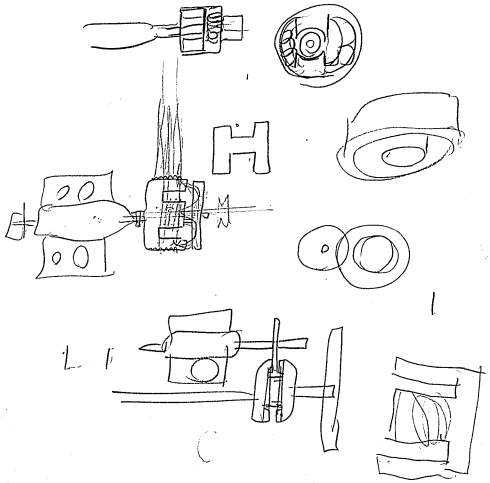
Subject, _____ Orange, N.J.



Cable Address "Edison, New York"

From the Laboratory
of
Thomas A. Edison.

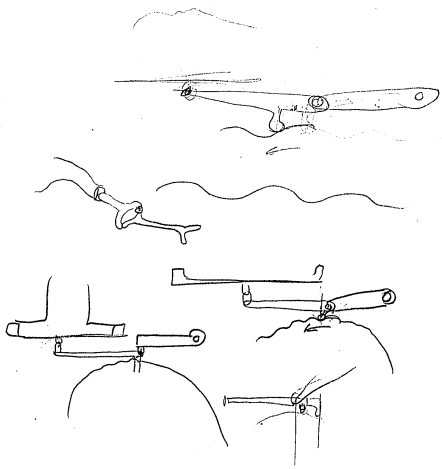
Subject, _____ Orange, N.J.



Cable Address "Edison, New York."

From the Laboratory
of
Thomas A. Edison.

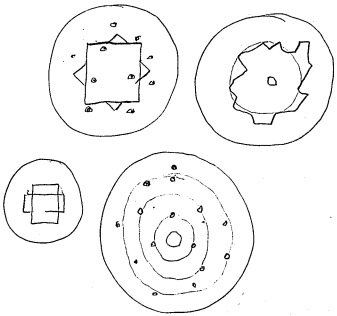
Subject, _____ Orange, N.J. _____



"Cable Address
"Edison, New York"

From the Laboratory
of
Thomas A. Edison.

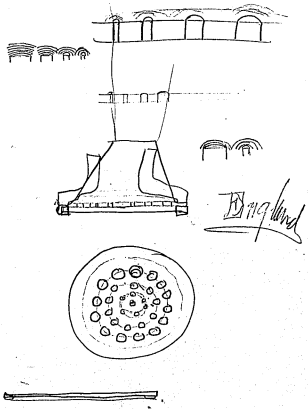
Subject _____ Orange, N.J. _____

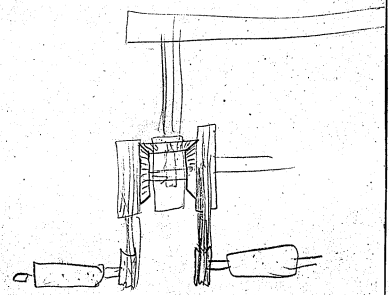


"Cable Address
"Edison, New York"

From the Laboratory
of
Thomas A. Edison.

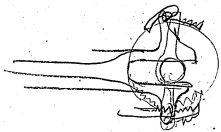
Subject _____ Orange, N.J. _____

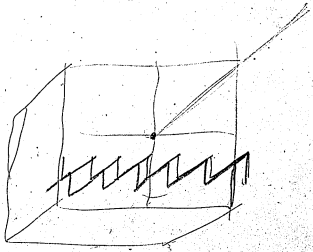


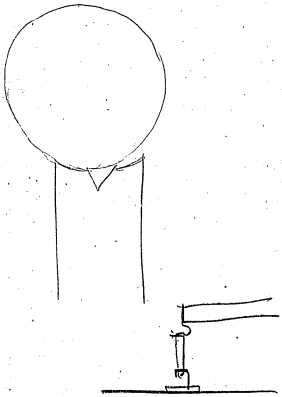


april 28/1890

J. A. E.,
J. F. C.
# 6



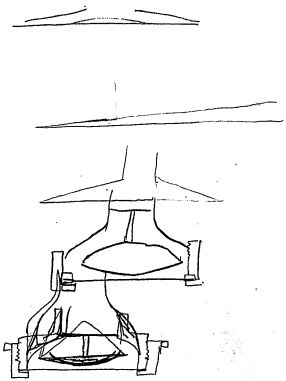




Cable Address
"Edison, New York"

From the Laboratory
of
Thomas A. Edison.

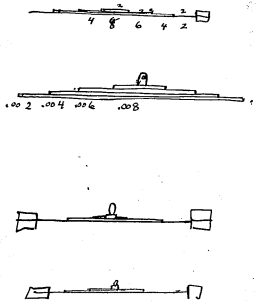
Subject _____ Orange, N.J. _____

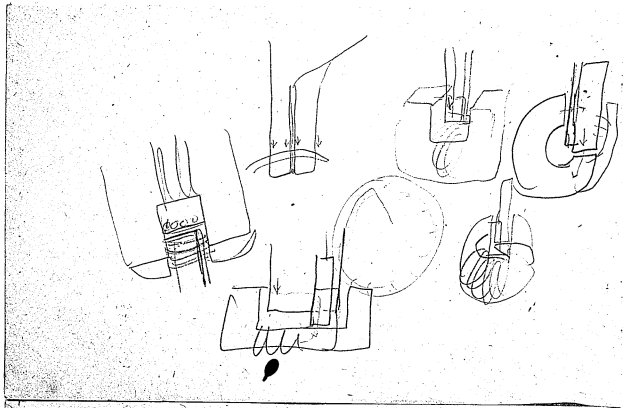


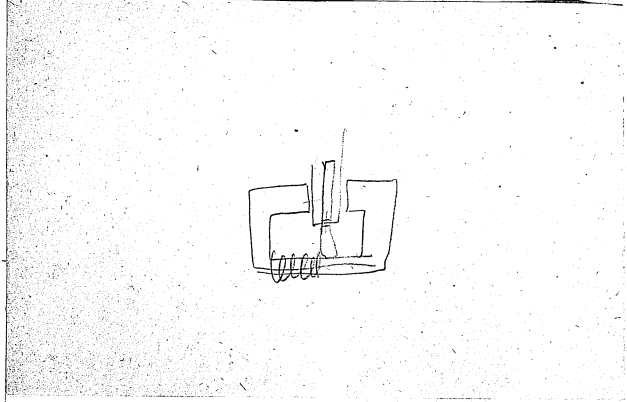
Cable Address
"Edison, New York"

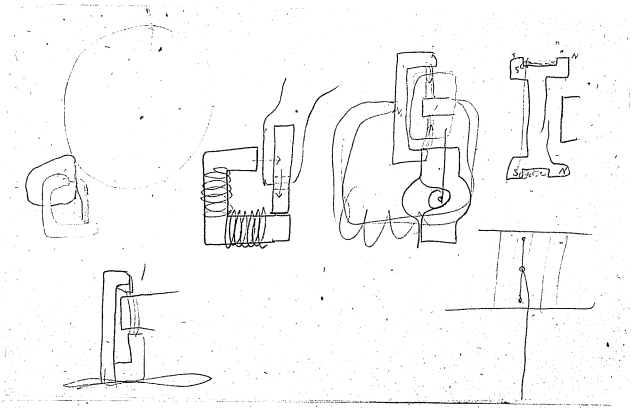
From the Laboratory
of
Thomas A. Edison.

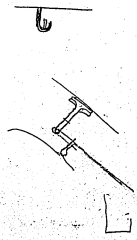
Subject _____ Orange, N.J. _____

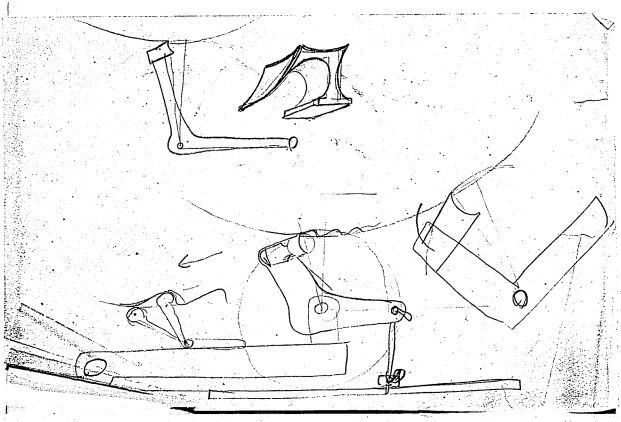


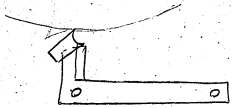


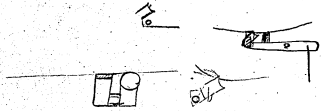


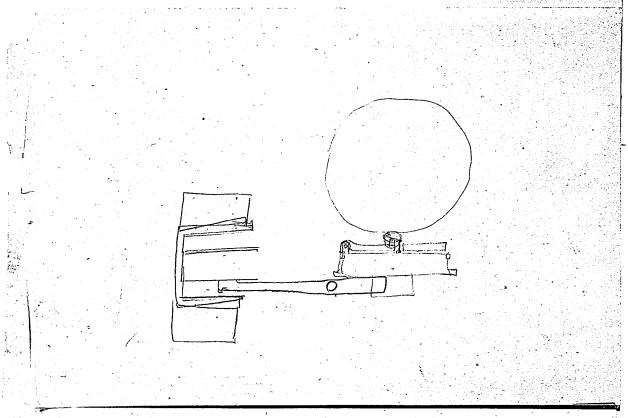

S
N
S
N

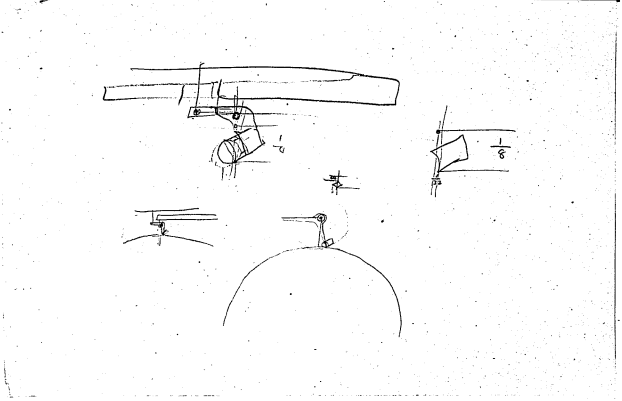


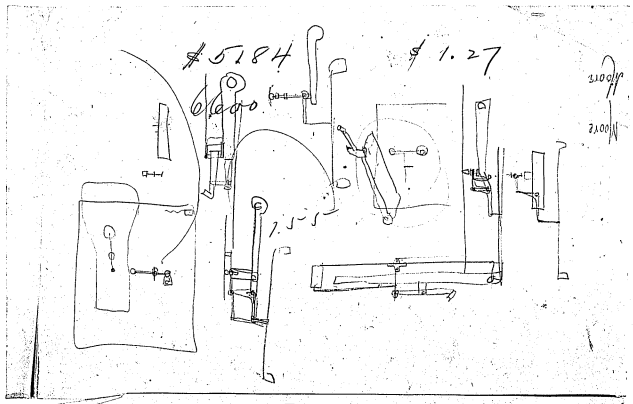


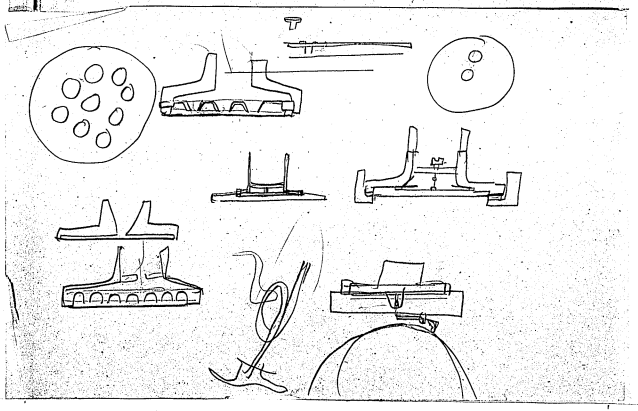


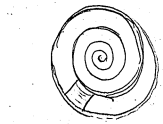


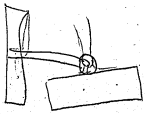



1/6
1/6

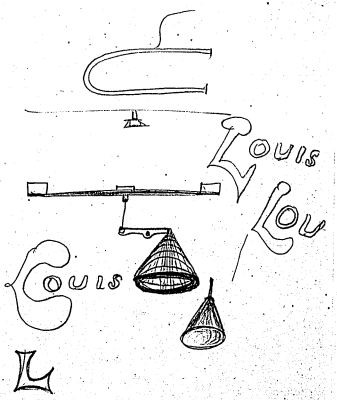

#5184
$1.27
1.55

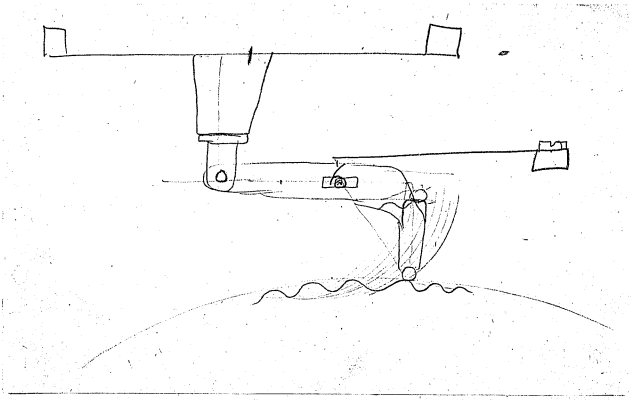


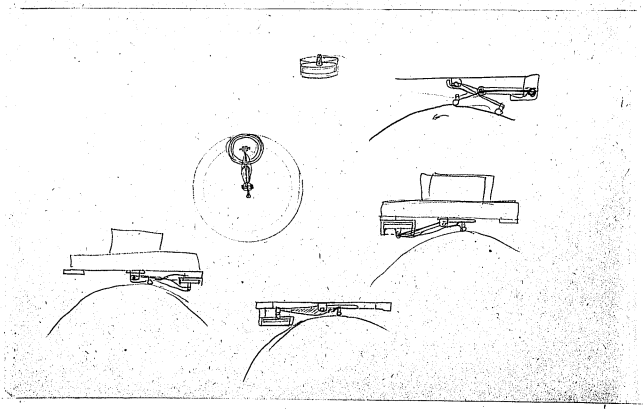


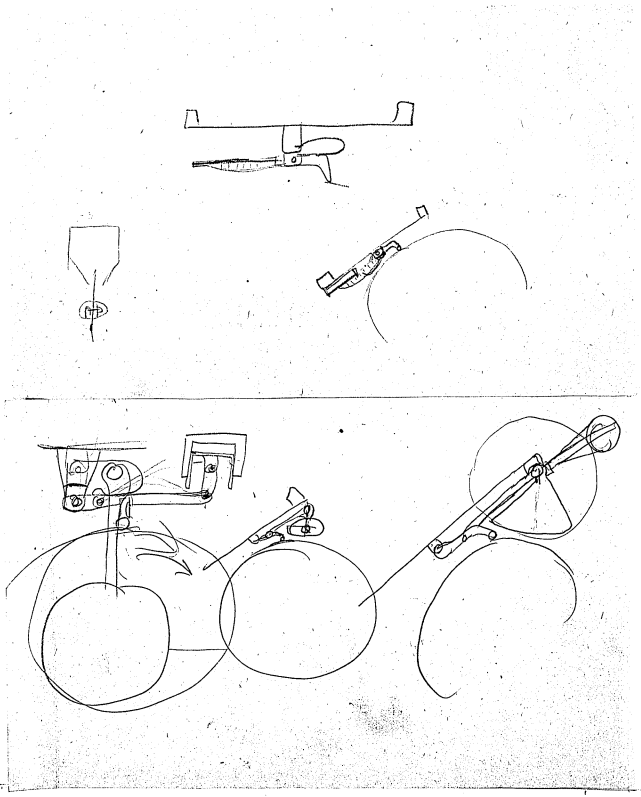


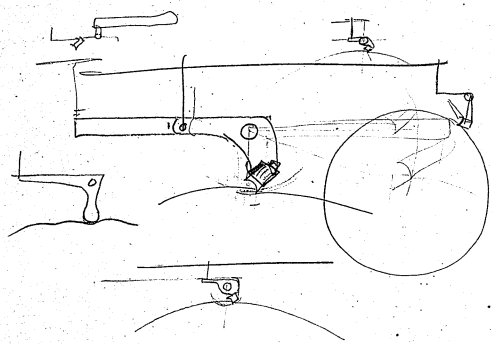
L LORO

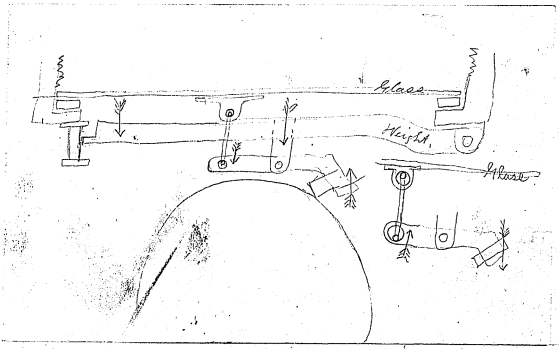


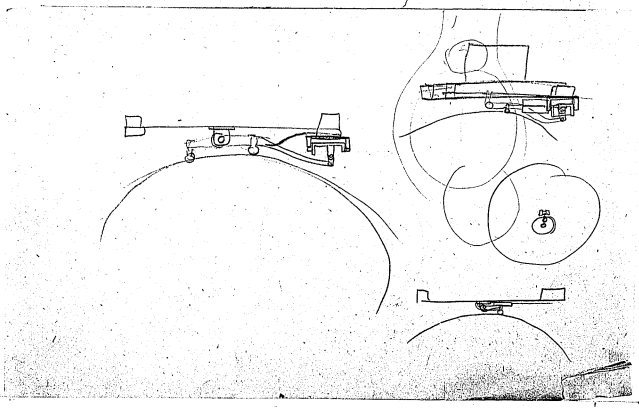


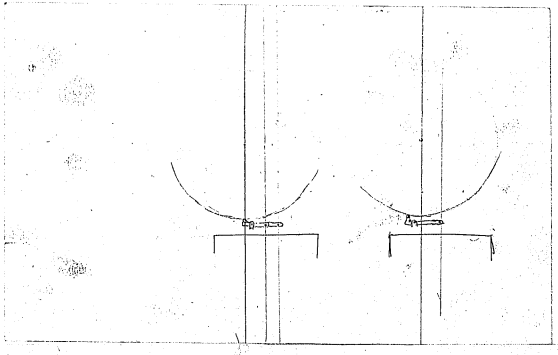


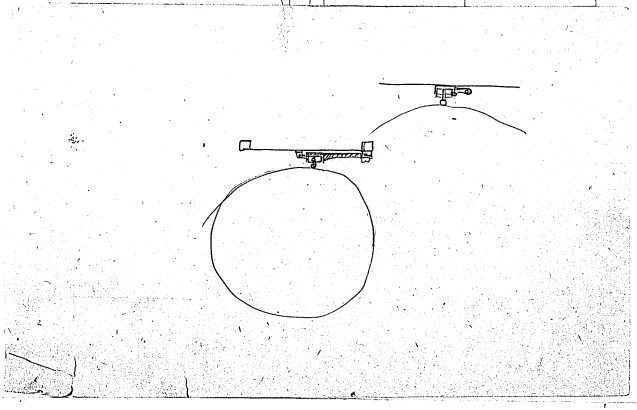


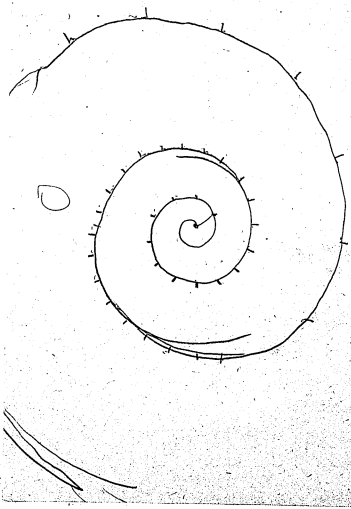


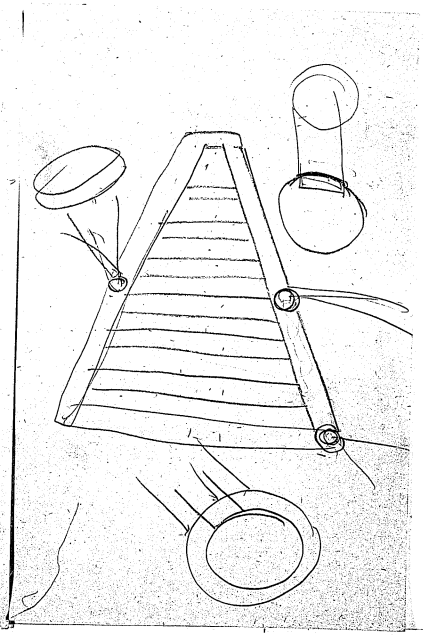

Glass
Weight.
Glass

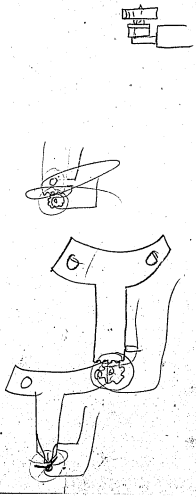


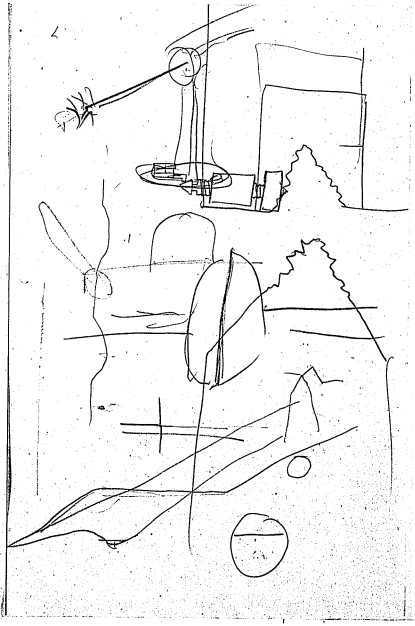


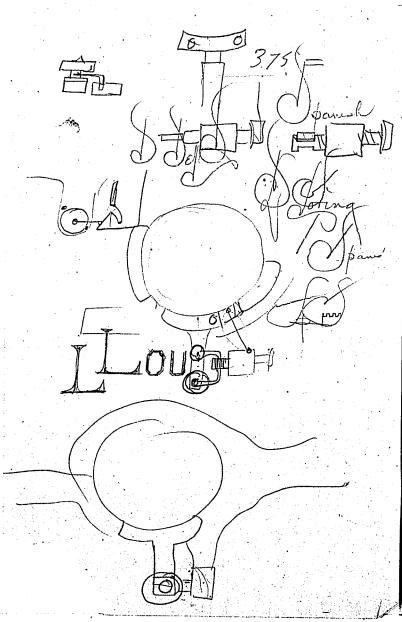


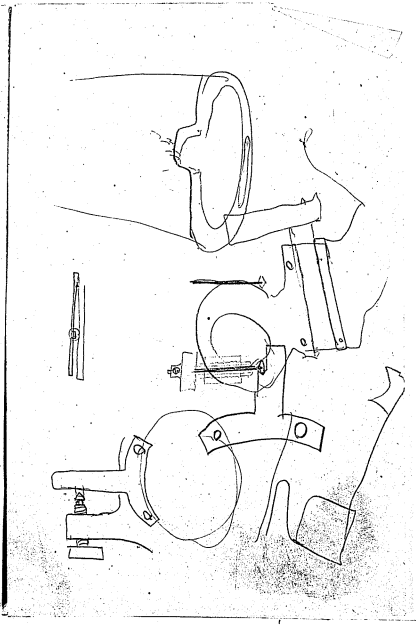


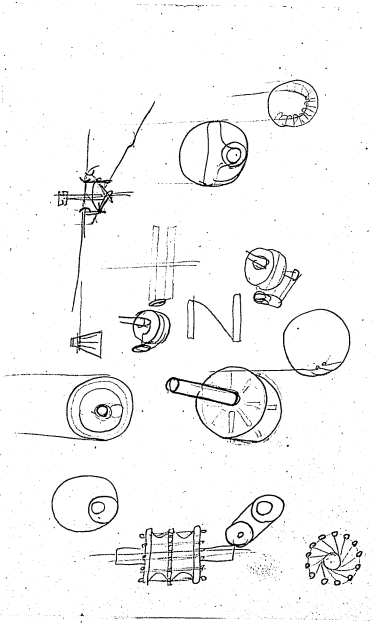


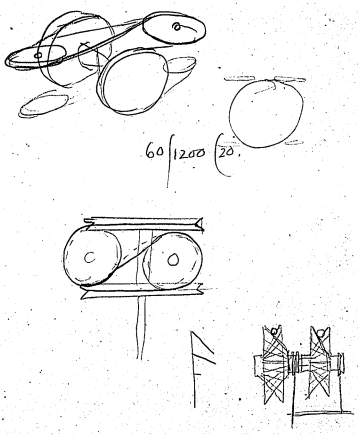





375
Lou



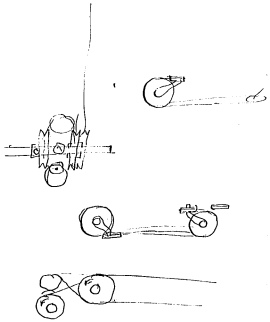


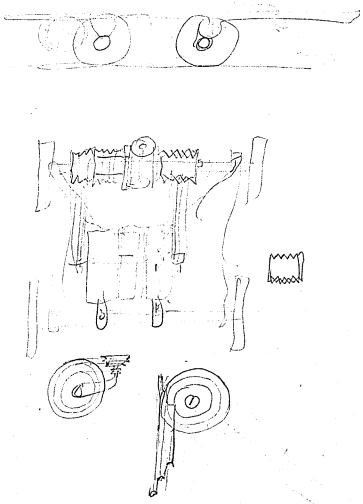

60
1200
20.

Cable Address
"Edison, New York"

From the Laboratory
of
Thomas A. Edison.

Subject _____ Orange, N.J. _____

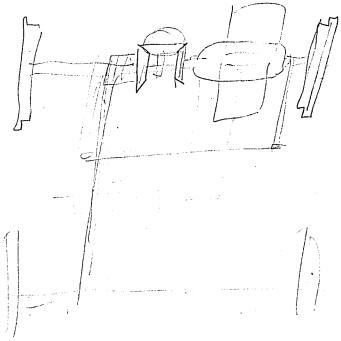


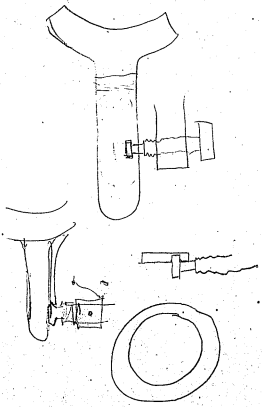


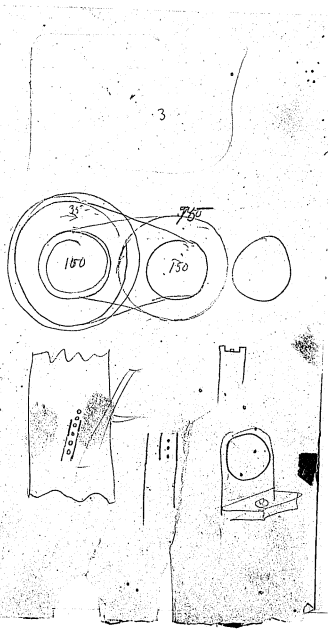
"Cable address"
"Edison, New York"

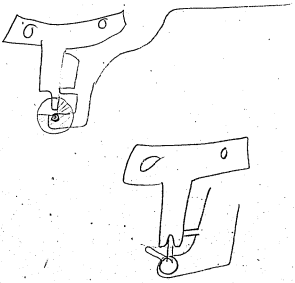
From the Laboratory
of
Thomas A. Edison.

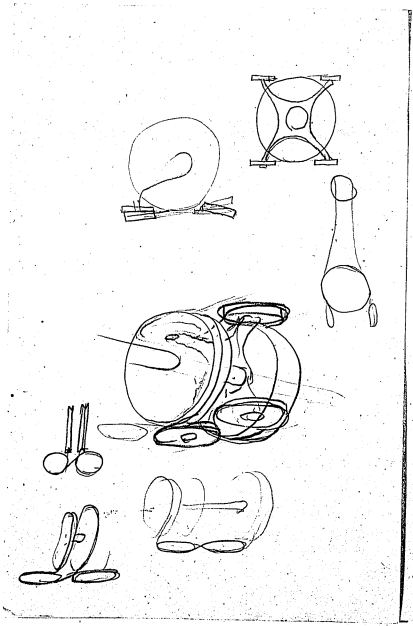
Subject _____ Orange, N.J. _____

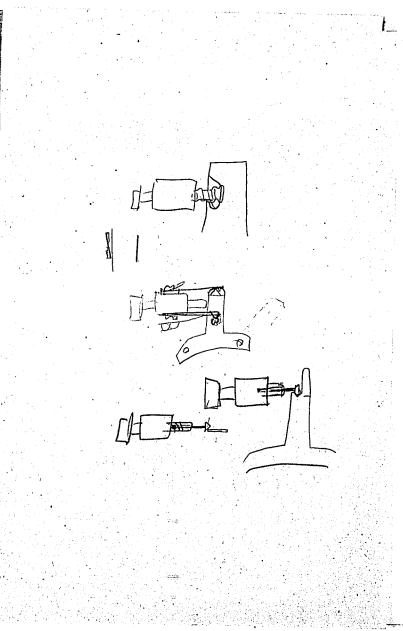





3
.35
.160
.150

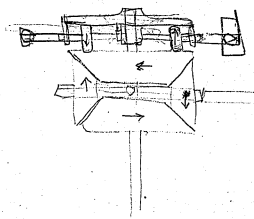




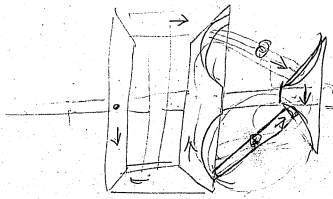


B

OK. July 19 90
J. F. Oth



July 19 90
J. F. Oth



J. F. O.

Dynamo. 3 horsepower –
~~Highest voltage~~ 10 volts
2 Circuits from it one for
light (6 Lights) 10 cp –
+ Clutch circuit –

Motor governed 50 at
runs 1500 at 230.
of Car motor + only 10 pct
more when Car motor runs
700 rev –

230 Rev
700 forks

5 horsepower

$2\frac{1}{2}$

10 –

13 12 –

Dont forget about
Lamp Regulator –

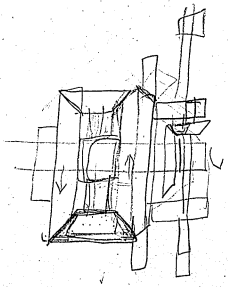
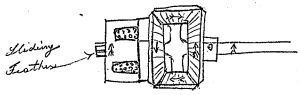


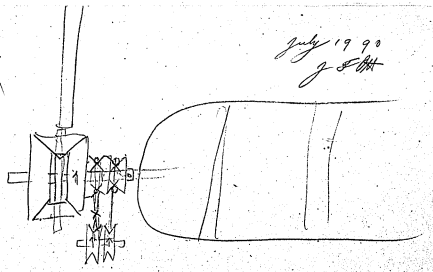
Fig. 1.8.9
L. Gatty

July 1990
J. F. [illegible]




No 4

July 1990
J. F. [illegible]



NO 3

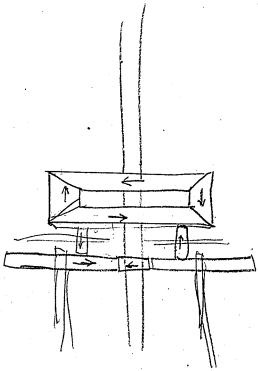


July 1990
J. [illegible]



NO 2

July 1990
J. [illegible]

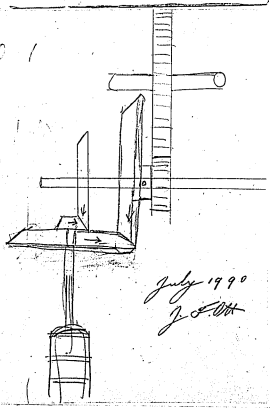


Tray

July 1990

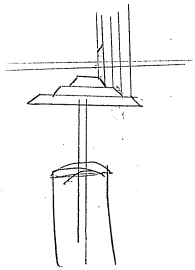
J. F. Ott

10 1

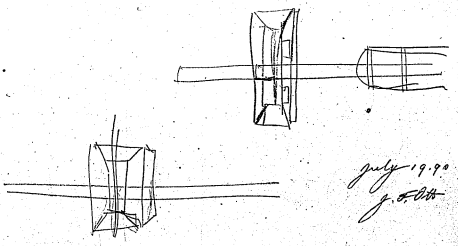


July 1990

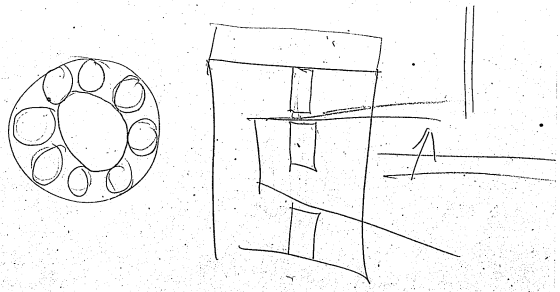
J. F. Ott



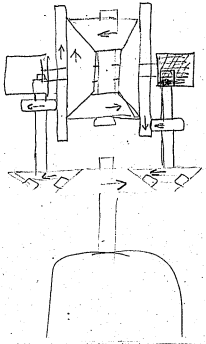
july 1990
J. F. Holt



july 1990
J. F. Holt

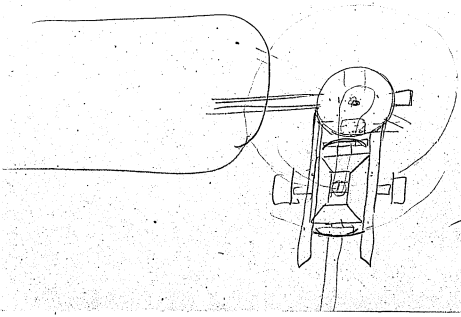


July 1990
J F Oh



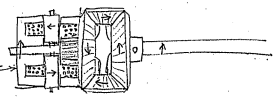
No 7

July 1990
J F Oh



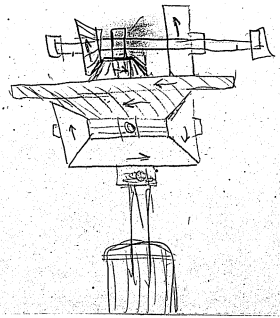
set

July 1990
J F Ott



This turns with shaft
sliding key

OK July 1990
J. F. Ott

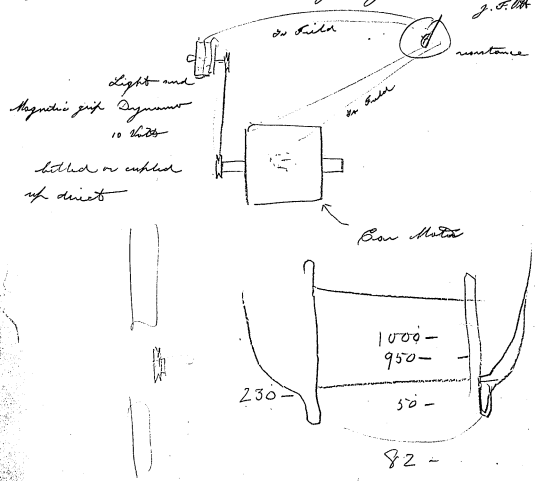


Cable Address "Edison, New York."

# From the Laboratory of Thomas A. Edison.

Subject, _____ Orange, N.J. Dec 2 90

J. F. Ott



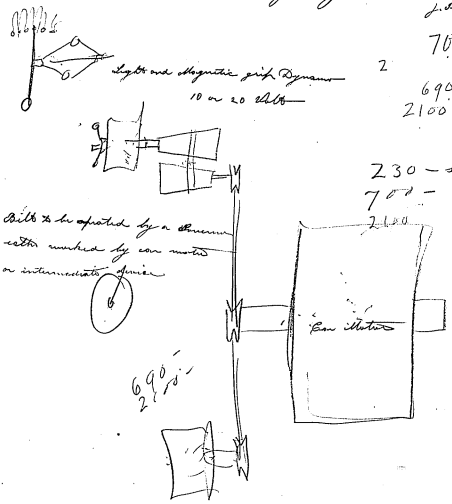
Cable Address "Edison, New York"

# From the Laboratory of Thomas A. Edison.

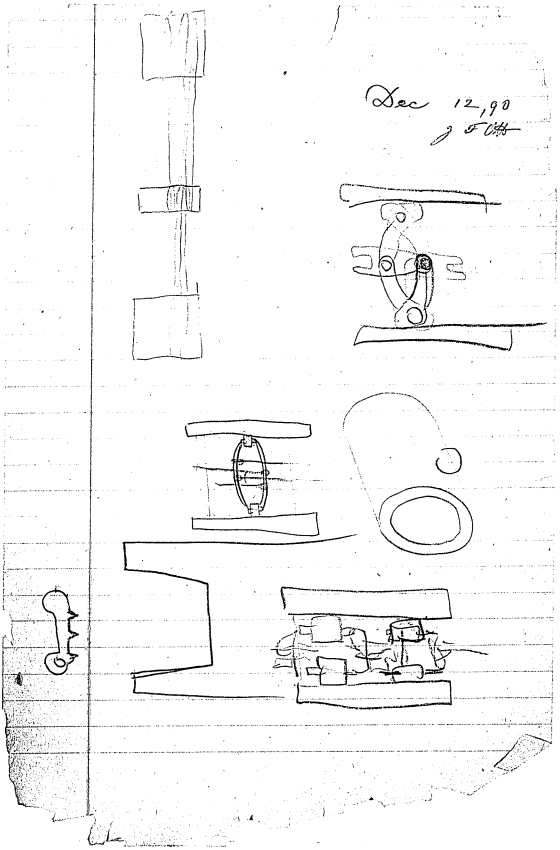
Subject: _____

Orange, N.J. Dec 2 90

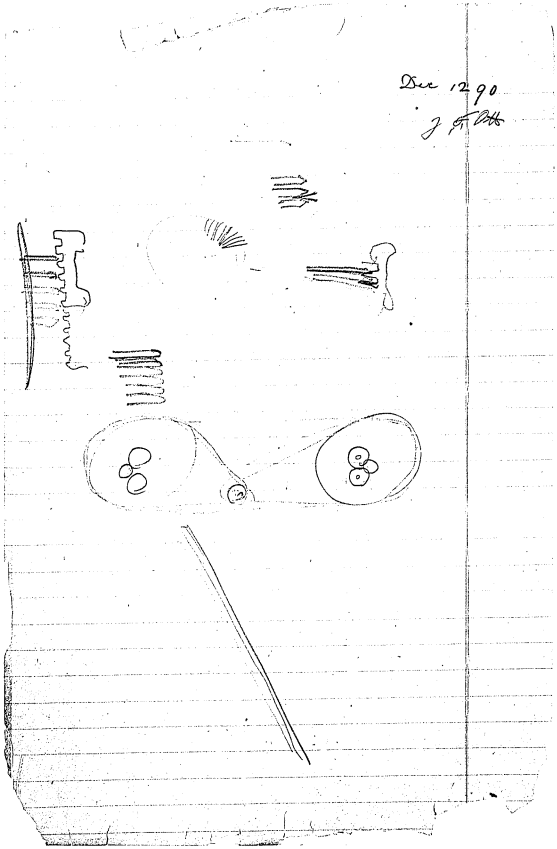
J. S. Otto



Dec 12, 90
J F Cliff

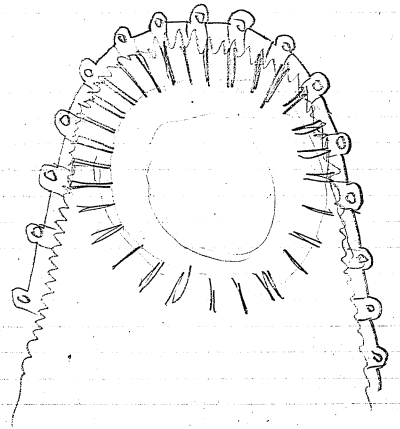


Dec 12 90
J. F. Pitts



Dec 12, 90

J. E. [illegible]



Dec 12, 90

Dec 12, 90
J. F. Ott

Let $n$ be the no. of pins on the circle circum.
$l$ = length of each link
$j$ = joint without holes
Then $\frac{n}{l}$ is the no. of pins per link
$l\left(\frac{k-j}{n}\right)$ = distance between holes

Suppose no holes

equidistant for convenience.
Then the number of holes = $h \cdot n j$
the

The distance between corresponding holes in $l$ links is
$lhk + lj$ If there are $h$ holes per link
$lhk + lj$ is the no. of holes.

$lhk + lj = np$

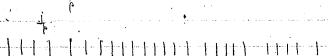
$n(hk + j) = np$

$\frac{n}{p} = \frac{p}{hk+j}$

$\frac{n}{p} = \frac{hk+j}{p}$

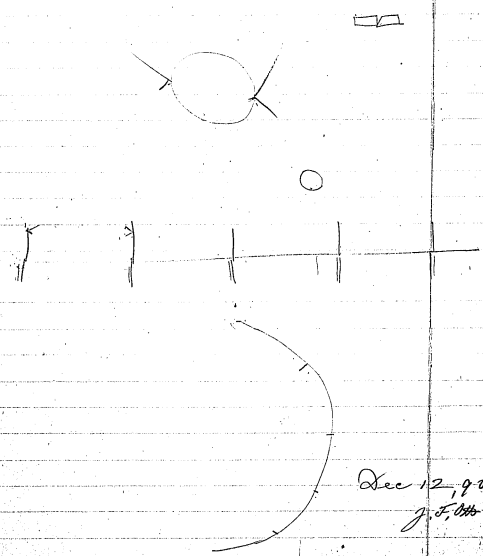
$\frac{n}{p} = \frac{p}{p}$

each joint expands $\frac{1}{16}$"

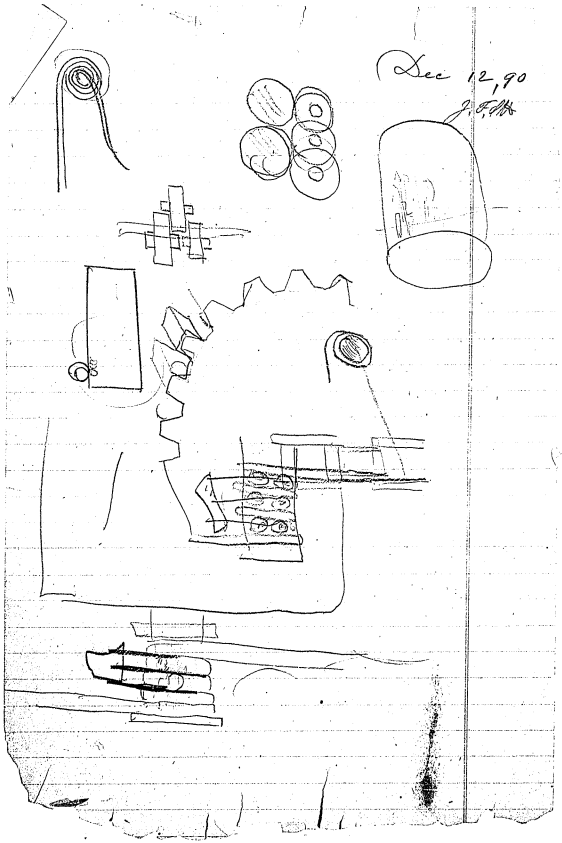


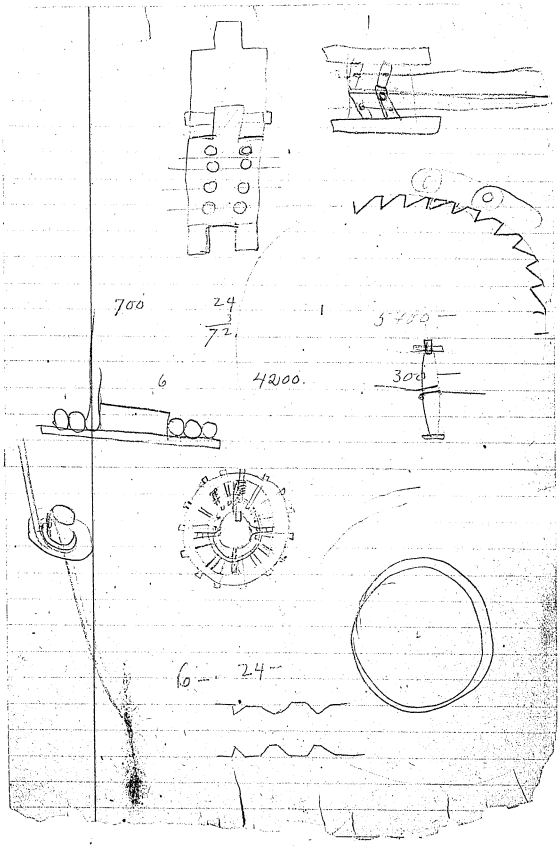
Dec 12 90 J. F. Otto

Divide the circumference [illegible] in equal parts each having [illegible] holes. Place the [illegible] hole [illegible] about and [illegible] the smallest expansion [illegible] for link will produce a [illegible] length [illegible] and [illegible] must [illegible]



Dec 12, 90
J. F. Otto


Dec 12, 90


700
24
72
6
4200.
300
6
24

PUBLICATION AND MICROFILM
COPYING RESTRICTIONS

Reel duplication of the whole or of any part of this film is prohibited. In lieu of transcripts, however, enlarged photocopies of selected items contained on these reels may be made in order to facilitate research.

## A Note on the Sources

The pages which have been filmed are the best copies available. Every technical effort possible has been made to ensure legibility.

107

END

## FINANCIAL CONTRIBUTORS

### PRIVATE FOUNDATIONS

The Alfred P. Sloan Foundation
Charles Edison Fund
The Hyde and Watson Foundation
Geraldine R. Dodge Foundation

### PUBLIC FOUNDATIONS

National Science Foundation
National Endowment for the Humanities
National Historical Publications and Records Commission

### PRIVATE CORPORATIONS AND INDIVIDUALS

Alabama Power Company
Amerada Hess Corporation
Anonymous
AT&T
Atlantic Electric
Association of Edison Illuminating Companies, Inc.
Battelle Memorial Institute
The Boston Edison Foundation
Cabot Corporation Foundation, Inc.
Carolina Power & Light Company
Consolidated Edison Company of New York, Inc.
Consumers Power Company
Corning Glass Works Foundation
Duke Power Company
Entergy Corporation (Middle South Electric Systems)
Exxon Corporation
Florida Power & Light Company
General Electric Foundation
Gould Inc. Foundation
Gulf States Utilities Company
Idaho Power Company
International Brotherhood of Electrical Workers
Iowa Power and Light Company
Mr. and Mrs. Stanley H. Katz
Matsushita Electric Industrial Co., Ltd.
McGraw-Edison Company
Minnesota Power
New Jersey Bell
New York State Electric & Gas Corporation
North American Philips Corporation
Philadelphia Electric Company
Philips International B.V.
Public Service Electric and Gas Company
RCA Corporation
Robert Bosch GmbH
Rochester Gas and Electric Corporation
San Diego Gas & Electric
Savannah Electric and Power Company
Schering-Plough Foundation
Texas Utilities Company
Thomas & Betts Corporation
Thomson Grand Public
Transamerica Delaval Inc.
Westinghouse Educational Foundation
Wisconsin Public Service Corporation

## BOARD OF SPONSORS

Rutgers, The State University of New Jersey
Francis L. Lawrence
Joseph J. Seneca
Richard F. Foley
Rudolph M. Bell
New Jersey Historical Commission
Howard L. Green
National Park Service
John Maounis
Maryanne Gerbauckas
Nancy Waters
George Tselos
Smithsonian Institution
Bernard Finn
Arthur P. Molella

## EDITORIAL ADVISORY BOARD

James Brittain, Georgia Institute of Technology
Alfred D. Chandler, Jr., Harvard University
Neil Harris, University of Chicago
Thomas Parke Hughes, University of Pennsylvania
Arthur Link, Princeton University
Nathan Reingold, Smithsonian Institution
Robert E. Schofield, Iowa State University

## CORPORATE ASSOCIATES

William C. Hittinger (Chairman), RCA Corporation
Edward J. Bloustein, Rutgers, The State University of New Jersey *
Cees Bruynes, North American Philips Corporation
Paul J. Christiansen, Charles Edison Fund
Philip F. Dietz, Westinghouse Electric Corporation
Roland W. Schmitt, General Electric Corporation
Harold W. Sonn, Public Service Electric and Gas Company
Morris Tanenbaum, AT&T

*Deceased.

**THOMAS A. EDISON PAPERS**

**Reese V. Jenkins**
Director and Editor

**Thomas E. Jeffrey**
Associate Director and Microfilm Editor

**Robert A. Rosenberg**
Managing Editor, Book Edition

**Helen Endick**
Assistant Director for Administration

Associate Editor
**Paul B. Israel**

Research Associates
**Theresa M. Collins**
**David W. Hutchings**
**Karen A. Detig**

Intern
**Gregory Jankunis**

Assistant Editors
**Keith A. Nier**
**Gregory Field**
**Lisa Gitelman**
**Martha J. King**

Secretary
**Grace Kurkowski**

Student Assistant
**Bethany Jankunis**

**Thomas A. Edison Papers**
**at**
**Rutgers, The State University**
**endorsed by**
**National Historical Publications and Records Commission**
**18 June 1981**

Copyright © 1993 by Rutgers, The State University

All rights reserved. No part of this publication including any portion of the guide and index or of the microfilm may be reproduced, stored in a retrieval system, or transmitted in any form by any means—graphic, electronic, mechanical, or chemical, including photocopying, recording or taping, or information storage and retrieval systems—without written permission of Rutgers, The State University, New Brunswick, New Jersey.

The original documents in this edition are from the archives at the Edison National Historic Site at West Orange, New Jersey.

**ISBN 0-89093-702-8.**

# Thomas A. Edison Papers

*A SELECTIVE MICROFILM EDITION*

*PART III*
*(1887–1898)*


**Thomas E. Jeffrey**
Microfilm Editor

**Gregory Field**
**Theresa M. Collins**
**David W. Hutchings**
**Lisa Gitelman**
**Leonard DeGraaf**
**Dennis D. Madden**
**Mary Ann Hellrigel**
**Paul B. Israel**
**Robert A. Rosenberg**
**Karen A. Detig**
**Gregory Jankunis**
**Douglas G. Tarr**

Editors

**Reese V. Jenkins**
Director and Editor

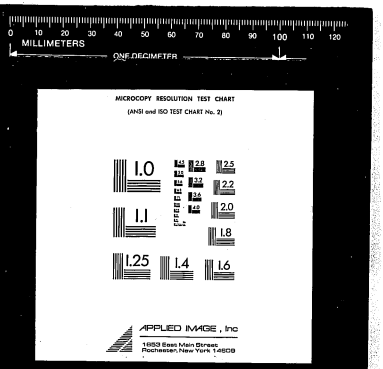


Sponsors
**Rutgers, The State University of New Jersey**
**National Park Service, Edison National Historic Site**
**New Jersey Historical Commission**
**Smithsonian Institution**

**University Publications of America**
**Bethesda, Maryland**
**1993**



Edison signature used with permission of McGraw-Edison Company.




# 14:1

Compilation © 1993 University Publications of America.
All rights reserved.